



CENTER FOR RESEARCH TOWARD ADVANCING **FINANCIAL TECHNOLOGIES**



ANNUAL REPORT 2023





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“We focus on investing in technology innovations that have potential to substantially improve financial process efficiencies and generate consumer values while addressing societal and environmental challenges.”

Steve Yang
CRAFT Director, Associate Professor, School of Business, Stevens Institute of Technology



MESSAGE FROM THE DIRECTORS

As 2023 draws to a close, the Center for Research toward Advancing Financial Technologies (CRAFT) leadership team would like to take this opportunity to thank all the members and stakeholders for your enthusiastic support and deep passion for CRAFT. This year has seen challenges, but also continued growth. It is clearer than ever that CRAFT needs to move forward with a compelling vision to bring concrete value to its members, while continuing to tackle the deep technical challenges faced by the industry. While the global economy was tinted with a high inflation risk, the fintech industry has embraced hope, and as a result, CRAFT is finishing a strong year with much progress to report. In the updates to follow, we outline what we have accomplished this year and what we plan to achieve in 2024.

In the spring of 2023, CRAFT held a workforce development workshop and the third Industry Advisory Board (IAB) meeting of the Center, where the IAB and Academic Leadership Team (ALT) converged to select five proposals for funding to address the most pressing problems faced by the members. These projects consistently represented the forward-looking vision of our industry members. During the summer of 2023, the first round of seven CRAFT funded projects concluded. Each of these projects generated publications and materials consistently accessed by CRAFT's industry partners. In November 2023, Bank of America hosted the fourth Industry Advisory Board meeting, marking the first time an industry partner hosted a CRAFT event. We are incredibly grateful for our members' commitment toward the success of this joint venture.

Throughout 2023, CRAFT refined its strategic planning process to update its research road map to better align and advance CRAFT's commitment to our stakeholders. The Center worked closely with our members to identify important vertical themes, which include Explainable AI, DeFi and Quantum Computing, while keeping the related social concerns of fairness, accountability, responsibility, privacy and ethics in clear sight. These social values advocated by the Center were further secured by our new partnership with the NGO Committee on Private Sector Development at the United Nations. Plans have swiftly been set in motion to involve CRAFT in on-going UN initiatives which include fintech education and workforce development for developing nations. We also welcomed Park Avenue Finance and Kennedys IQ to the consortium, along with two other affiliate members, Fintech Connector and Balcony Technologies. These new members further energized our initiative in commercialization and insurance industry innovation. This report provides additional details on the vertical themes and related research priorities.

While continuing to expand in research innovation, workforce development, and thought leadership in fintech, we redoubled our efforts in growing our partnership internationally. We developed a strategic partnership with the UKFin+, a UK EPSRC funded program, whose aim is to bridge the current gap between research conducted at universities and the needs of the financial services industry, consumers, and regulators. Leveraging the Center's existing expertise and professional network, we worked together to explore new international collaboration opportunities. We also initiated our collaboration with the Center of Financial Technology and Regulation at the University of Cambridge and the Center of Financial Technology at Imperial College. With these prospective collaborations taking shape, we are excited that CRAFT will expand its leadership in fintech research and innovation on the global stage. Additionally, the UN partnership also affirms our commitment to build a globally diverse, equitable, and inclusive society using fintech research and innovations.

In closing, we want to thank all our industry members, faculty, students, partners and project teams for your tireless effort in producing marvelous results in 2023. Your investment and your commitment to CRAFT sets us up for a wonderful outlook for 2024. We eagerly look forward to working with you to take the Center to new heights in the new year.

Sincerely,

Steve Yang
Director

Aparna Gupta
Co-Director

George Calhoun
Managing Director

Jesse Lisnow
Operations Director



CRAFT OVERVIEW

The Center for Research toward Advancing Financial Technologies (CRAFT) is the first National Science Foundation awarded I/UCRC (Industry-University Cooperative Research Center) in fintech. CRAFT is a joint collaboration between Rensselaer Polytechnic Institute and Stevens Institute of Technology established on July 25, 2021, and launched on Oct 28, 2021.

The CRAFT leadership team consists of Dr. Steve Yang (Center Director), Dr. Aparna Gupta (Co-Director and Site Director), and Dr. George Calhoun (Managing Director).

The Academic Leadership Team (ALT) of CRAFT consists of Dr. Steve Yang, Dr. Aparna Gupta, Dr. George Calhoun, Dr. Kristen Bennett, Dr. Maggie Chen, Dr. Darinka Dentcheva, Dr. Andrei Kirilenko, Dr. Jeffrey Nickerson, Dr. K.P. Subbalakshmi and Dr. Mohammed Zaki.

The goal of CRAFT is to be a hub for fintech research and innovation, workforce development and thought leadership. The Center focuses on research that helps its members create and assimilate fintech solutions effectively into their organizations. CRAFT also focuses on workforce development initiatives that advance industry partner knowledge and facilitate access to talent pipelines which are vital to the industry. CRAFT prides itself on being a thought leader in the fintech sphere by creating cutting-edge content, leading discussions with top stakeholders, and an expanding influence through the Center's international partnerships. CRAFT's vision is to be an industry-university center devoted to research, workforce development, and thought leadership in fintech with the aim of advancing the industry, the various related disciplines of research, and more broadly, make a beneficial impact on society.

CRAFT is dedicated to supporting new research that is collectively endorsed by our industry partners, academic leadership, and experts in computer science, mathematics, finance, economics, business management, law and regulation, risk analytics, and behavioral and social sciences. Working closely with the CRAFT Industry Advisory Board (IAB) members, the Center developed a formal process and research road map to facilitate interdisciplinary collaboration across the Center's two sites. The Center's extended research roadmap includes seven vertical areas - Explainable AI, Natural Language Process (NLP), Crypto Assets, DeFi, Green Finance, Quantum Computing and Cybersecurity. The Center's multidisciplinary research projects aim to assimilate the following values:

CRAFT VALUES

- **FAIRNESS AND ACCESSIBILITY, TO ESTABLISH TRUST AND CAPITALIZE ON THE OPPORTUNITIES WITH EMERGING TECHNOLOGIES**
- **ACCOUNTABILITY AND SOCIAL RESPONSIBILITY, WITH THE GOAL OF DEMOCRATIZING FINANCE**
- **SUSTAINABILITY, CLIMATE IMPACT AND GREEN FINANCE**
- **COOPERATION WITH FINANCIAL REGULATION, WHICH WILL GREATLY BENEFIT INTERDISCIPLINARY INVESTIGATION**

CRAFT VERTICALS



Artificial
Intelligence



Natural
Language
Processing



Crypto
Assets



DeFi



Quantum
Finance



Green
Finance



Cybersecurity



SIGNIFICANT RESULTS



CRAFT has 20 current industry partners.

They include 4Thought Tech, Altonomy, Inc., Elevance (Formerly Anthem), Balcony Technologies, Bank of America Corporate, Bank of America Securities Trading, Capgemini, Charles Schwab, Chubb, CME, Fintech Connector, Gold-man Sachs, Government Blockchain Association, Kennedys IQ, IBM, Park Avenue Finance, SWIFT, United Nations, The Vanguard Group, UBS, and Wells Fargo. In 2023, the Center funded five IAB-recommended projects, two first-of-its-kind “ignition grants,” established engagement channels between industry and project PIs, held two Center-wide Industry Advisory Board meetings, two industry-inspired workshops, and continues to recruit new industry and academic partners. CRAFT is also working closely on a major New Jersey initiative - the NJEDA Fintech Innovation Center.

In 2023, CRAFT saw the addition of six new industry members (3 paid members and 3 affiliate members).

With the addition of Chubb, Park Avenue Finance and Kennedys IQ, the center is effectively positioning expansion in the insurance industry. Two new affiliate members further enhanced CRAFT’s reach into the fintech innovation and startup community. One of the most exciting additions is the partnership with the NGO Committee on Private Sector Development at the United Nations. This partnership is actively engaged in a number of fronts such as green finance, impact financing, financial literacy, youth empowerment, and educating next generations in sustainable growth and economic development. Our UN representatives have expressed their strong support for CRAFT and plan to expedite the incorporation of CRAFT into UN Green finance initiatives which focus on workforce development and Fintech education for developing nations all around the world. CRAFT will be co-creating UN green fintech subcommittee with it’s members which will implement Fintech initiatives centered around sustainability, development and education of talent, and workforce development. This will be facilitated through an Innovation Lab. The partnership with the NGO Committee on Private Sector Development will also help to co-certify initiative certifications and will further relationships with other UN agencies. The NGO Committee on Private Sector Development at the United Nations fully realizes the uniqueness of the CRAFT center and thus plans to build the relationship as quickly as possible.

CRAFT is currently in discussions with the New Jersey Economic Development Agency (NJEDA) to establish a state level Fintech Innovation Center with the primary aim of serving as an incubator for early stage fintech companies.

The CRAFT team submitted a proposal to the NJEDA in response to their RFI to build a Fintech Innovation Center with a focus on startup incubation, workforce development, and regional economic improvement. The team received very favorable feedback and through the guidance of Stevens leadership, helped secure Stevens leading role in Innovation Hub creation and management.



RESEARCH

The CRAFT Industry Advisory Board (IAB) recommended five projects for research funding in the Spring of 2023. Following the CRAFT bylaw procedures, the ALT decided to fund five projects, four of which started on June 1, 2023, and one starting on November 1, 2023. All five projects were selected for the \$100K full-funding level (1-year) [total \$500K]. Furthermore, two “ignition” grants were also funded using internal funding from academic partners. This was the first time that “ignition grants” received funding, which proved very beneficial as a developmental phase for their research. During the funding process, the Center followed our collaborative research interest discovery procedure, which was created last year. The Center also followed the established budget and scope revision process for project teams prior to project kickoff. All Full and Associate CRAFT industry partners have full access to CRAFT’s research outcomes – including publications, intellectual property rights and deployable technologies – on a non-exclusive, royalty-free basis. IP terms and conditions are standardized according to the NSF’s well-established template, which simplifies this often-tricky aspect of industry funding for academic research.



THE 2023-2024 FIVE FULLY FUNDED PROJECTS INCLUDE:

- **“Blockchain Interoperability for Business Organizations”**
PI: Oshani Seneviratne (RPI)
- **“Efficient, Private, and Explainable Federated Learning for Financial Crime Detection”**
PI: Stacy Patterson (RPI)
- **“Extending, Simulating and Scaling Decentralized Exchanges Made by Automated Market Makers”**
PI: Zachary Feinstein (Stevens)
- **“Systemic Risk Implications of Central Bank Digital Currencies”**
PI: Zachary Feinstein (Stevens)
- **“Quantum Algorithms for Tail Risk in Loan Portfolios”**
PI: Malik Magdon-Ismail (RPI)



THE TWO SUMMER IGNITION GRANTS WERE:

- **“Comprehensive Financial Disclosure Lexicon”**
PI: Elaine Henry (Stevens)
- **“Federated Learning for Fairness-aware and Privacy-Preserving Financial Risk Assessment”**
PI: Yue Ning (Stevens).



WORKSHOPS

In February 2023, CRAFT organized a Workforce Development Workshop. The workshop consisted of two panel discussions - one led by industry partners from Bank of America, Charles Schwab, CME and Vanguard, and the other panel comprised of students from Stevens and RPI. Through this workshop, the Center gained valuable insights from industry/HR leaders on how CRAFT can best support workforce development, access to talent initiatives and best practices on hiring procedures. The first panel was a discussion with Industry/HR leaders on the “state of the industry.” This centered around topics such as current and changing in-demand skill sets in the finance market, what skills firms are looking for, how CRAFT can produce talent firms are interested in, recommendations for fintech courses, hiring challenges, talent development, inflation and costs, factors driving workforce compensation, student recommendations etc. Participants included Dax Hill, Senior Innovation Manager, Vanguard, Eric Leininger, Executive Director, Financial Research & Product Development, CME Group (moderator), and Krupakar Pasupuleti, Tech Executive, Cloud Development and Enablement, Bank of America. The second panel was a “fireside chat” between industry/HR leaders and 4 students from Stevens and RPI. Students led the discussion and asked questions based on career trajectory perspectives. This included items such as job fairs, the hiring process, desirable resume characters, best practices to secure a position, the interview process, how to stand out amongst competition, valuable courses or academic experience, extracurricular activities, advice on becoming a fintech innovator, etc. Students included Noah Porcelain, Stevens UG Student, Agathe Sadeghi, Stevens PhD Student. Cole Paquin, RPI MS Student, and Pierce Phillips, RPI MS Student. Industry participants included Dax Hill, Senior Innovation Manager, Vanguard, Eric Brubaker, Senior Manager R&D, Charles Schwab. Eric Leininger, Executive Director, Financial Research & Product Development, CME Group, and Mike Purewal, Data Scientist, Bank of America. The workshop concluded with a presentation on the Hanlon Financial Systems Center laboratory, a staple of the finance program at Stevens, a presentation by the Stevens Student Managed Investment Fund (SSMIF), and a reception.

In November 2023, CRAFT hosted its second workshop of the year - a Generative AI Workshop at the Stevens Institute of Technology. Presenters included Sudhir Pai, Executive Vice President, Chief Technology & Innovation Officer, Member of FS Exco - Financial Services SBU at Capgemini, Adam Faanes, Chief Technology Officer, 4Thought Technologies, Jeffrey Nickerson (Stevens), Feng Mai (Stevens), Xiaoyang Liu (RPI), Chang Lu (Stevens) and Kevin Pitts (Stevens). Presentations included “Multi-Label Clinical Time-Series Generation via Conditional GAN”, “Generative AI and Ideation”, “Dissecting Corporate Culture Using Generative AI: Insights from Analyst Reports”, “Data-centric FinGPT: Open-Source Financial Large Language Models”, “Race2GenAI”, “Generative AI Trading Strategies: Trust and Explainability in 4Thought Studio”, a discussion on proposed Fintech Education Certification. The workshop was followed by a reception.

CRAFT is preparing to host a financial fraud workshop at Stevens in February 2024.



“The fintech landscape continues to evolve with emerging challenges that CRAFT can make significant and impactful contributions to. The multi-faceted efforts of the Center in the current year have strongly aligned the Center with its stakeholders to firmly advance the Center in realizing its goals.”

Aparna Gupta

CRAFT Co-Director and Site Director, Associate Dean for Academic Affairs,
Professor of Quantitative Finance, Lally School of Management, Rensselaer Polytechnic Institute



INFRASTRUCTURE

CRAFT has received physical space for operations at Stevens, which include nine offices, a conference room able to fit more than 30 people, an additional 9–12-person conference room and two cubicles. Thanks to a grant from the NJ state government, Stevens is able to renovate these spaces to accommodate the growth of the program. The number of affiliated faculty of the Center has grown from 28 during the planning phase to nearly 60 across science, technology and social science disciplines at both Stevens and RPI. With the University of Florida slated to join CRAFT by early 2024, the number of affiliated faculty will inevitably grow.



“As CRAFT begins its third year, the program is gaining momentum. We have 20 industry members and are actively recruiting many other potential members. The “mentoring” initiative connects individual industry members with specific research projects, to strengthen the connection of our research efforts with real-world applications and challenges in fintech. We also expect to add additional academic members in the coming year, which will expand the talent pool of scientific researchers available for CRAFT projects. I look forward to continued growth in 2024.”

George Calhoun

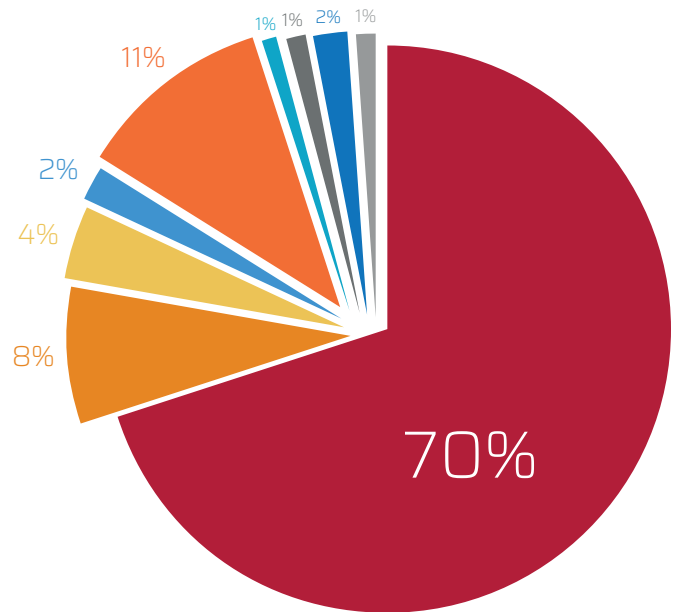
CRAFT Managing Director, Director & Professor Quantitative Finance Program,
School of Business, Stevens Institute of Technology



CRAFT Budget

EXPENSES

- Salaries - \$182,891
- Professional Services - \$20,858
- Data & Audio - \$9,212
- Printing & Copy Services - \$4,479
- Meetings & Workshops - \$27,875
- Equipment Purchases - \$3,598
- Materials & Supplies - \$2,718
- Travel - \$4,862
- Maintenance & Repairs - \$2,578
- Software Licenses - \$237
- Bank Fees - \$750
- Subscriptions & Publications - \$394

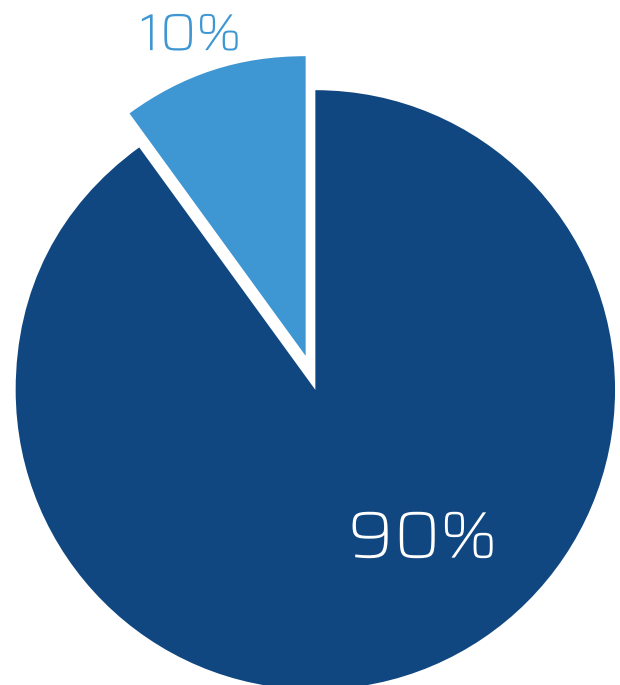


TOTAL EXPENSES: \$260,452

REVENUE

- Total Research Project Funding - \$500,000
- Total Balance Available - \$54,980


**TOTAL REVENUE COLLECTED:
\$554,980**








ACCOMPLISHMENTS AND MILESTONES


-  Since the first project funding cycle in June 2022, 12 funded CRAFT research products have produced 32 quarterly reports, 21 white papers, one journal article and worked with 17 students. The Center is currently engaged with three domestic Universities (University of Florida, University of Connecticut and University of Louisville), four international universities (Imperial College [UK], University of Manchester [UK], Cardiff University [UK] and University of Birmingham [UK]), and three international partnerships (NGO Committee on Private Sector Development at the United Nations, Kennedy IQ and UK Fin+). Forty-nine students attended the Industry Advisory Board Meetings in 2023.
-  CRAFT was hosted by Vanguard in a first-of-its-kind visit where four funded projects presented their progress and findings to Vanguard employees. The Center plans to implement more of these types of visits with CRAFT industry partners.
-  CRAFT's third year of operations added six new members and brought the total number of industry partners to 20 members (14 Full or Associate, six Affiliate), including industry leaders representing many different segments of the financial services industry including banking, insurance, retail brokerage, financial exchange, asset management and others.
-  Between Stevens and RPI, CRAFT has engaged nearly 60 affiliated faculty members across multiple disciplinary areas such as quantitative finance/financial engineering, finance, business analytics, information systems, computer science, physics, mathematics, psychology, economics, systems and more.
-  The second cycle of research project proposals attracted dozens of submissions from both university sites, resulting in approximately 17 proposals that were presented at the third IAB meeting of CRAFT held in March 2023 at the Rensselaer Polytechnic Institute campus. The IAB meeting included an academic presentation from the University of Connecticut, two keynote addresses and a panel discussion, along with presentation of 15 project proposals. From the proposals presented, five were selected for the first-year funding by the IAB (five Full).
-  CRAFT continued engagement and collaborative channels between IAB members and project PIs through Slack and bi-weekly/monthly Zoom meetings. These strategic channels are an opportunity not only for IAB members to be updated on project progress, but allow them to further guide, advise and steer projects as they unfold. Additionally, each research project now has an "Industry Mentor" —an idea that was solidified at the Spring 2023 IAB meeting.
-  CRAFT has been using the IAB semi-annual meetings to provide fintech training and development to industry participants, government staff and students at all levels. More than 80 industry professionals and 49 students participated in the open meetings for the spring and fall IAB meetings. For all the funded projects, there is at least one Ph.D. student involved in the research, along with some projects engaging many undergraduate students in the research experience. These students will be trained as experts in specific areas.

 CRAFT maintains its official website at <https://www.stevens.edu/craft>. The website is constantly growing and adding sections (such as the CRAFT Student Network & Prior Research) and contains essential overview information about the mission and vision of the Center, includes an I/UCRC overview with FAQs, provides leadership information and all the affiliated faculty profiles, how to become a member, lists current academic and IAB members, provides current project summary information, news and events related to the center, fintech overviews, and includes a portal for new research proposals.

 CRAFT organized two industry-inspired fintech workshops (Workforce Development, Generative AI) which included participation from IAB members, Stevens and RPI faculty, and students.

 The University of Florida successfully submitted their application to join CRAFT in June 2023. They are set to be the third university in the CRAFT academic consortium.

 The third cycle of project proposals in Fall 2023 followed a new “pre-proposal” process which was initiated by the IAB members in Spring 2023. Instead of PIs and IAB members submitting and reviewing full proposals, the IAB suggested that a “Shark Tank” style 5-min “lightning pitch” be made in a “lightning round” to filter most responsive and compelling proposals to further evaluate. The Center followed the IAB guidance and received seven “pre-proposals” during the Summer of 2023. In September, the seven pre-proposal pitches were made to the IAB and five of the seven were chosen for further consideration at the Fall 2023 meeting. The ALT confirmed this selection based on industry interest, academic merit and possibility of commercialization. They included “Large Transaction Models for FinTech” PI: Kristin Bennett (RPI), “Semantically Enhanced Graph Neural Networks for Event-Driven Financial Impact Analysis” PI: Mohammed Zaki (RPI), “A Next Generation AI-Powered Financial Advisor” PI: Jacek Ossowski (Stevens), “An initial Framework to understand Financial Systems Resilience” PI: Jose Ramirez-Marquez (Stevens), and “Unpacking Failed Big-Ticket M&A: Exploring Behavioral Characteristics and Decision-Making Dynamics Using Deep Learning Models” PI: Suman Banerjee (Stevens).

 CRAFT held its fourth bi-annual IAB meeting at Bank of America in New York City. This was the first time that an IAB meeting was held at an Industry member location. This collaboration between RPI, Stevens and BoA proved to be very beneficial as many long-lasting relationships were solidified and the centralized location of the Bryant Park campus proved to be very convenient for most attendees. The first day of the conference included presentations from Center and Academic Leadership, an academic presentation by the University of Manchester, three keynote addresses by the NGO Committee on Private Sector Development at the United Nations, UK Fin+, and Imperial College, and two panel discussions on Fintech Commercialization and Workforce Development, Diversity, Equity, and Inclusion. Five research proposal presentations were also conducted, which were all pre-vetted during the September “lightning rounds” pitches. Day 2 consisted of an ALT/IAB administrative session, presentations by four PIs of current CRAFT funded projects, an NSF/IAB closed session and an IAB/ALT final report.

 CRAFT is in current discussions with various stakeholders to implement a “CRAFT Talent Network” comprised of current academic member students to be accessed by industry partners, a “CRAFT HS Network” comprised of local high school students interested in fintech, a “CRAFT DEIA Network” comprised of economically disadvantaged and underrepresented local schools interested in financial training, and a “CRAFT Fintech Education Certification” which will act as a bootcamp in fintech for industry member employees and will result in certificate.



“The CRAFT NSF/IUCRC focused on Fintech enters its third year on a strong footing with active recruiting of new industry and academic members, building a forward-looking research innovation agenda, and expanding the pipeline of research talent. The Center provides a unique value proposition in building a community of business and technical leaders in the financial industry and academia to drive innovation and address industry priorities. IBM looks forward to participating in CRAFT to advance the application of modern transformational technologies including generative AI and quantum computing to the financial services industry.”

Dr. Kumar Bhaskaran



Financial Services Technology & Innovation Leader, IBM and Chair, CRAFT IAB







CRAFT GROWTH OBJECTIVES

To accomplish the Center's long-term growth objectives, the CRAFT team has defined specific plans following these broad Center objectives.





A Conduct high-quality, high-impact research to meet shared needs of industry constituencies.

-  Base all research funding on industry need and the strong prospect for commercialization.
-  Work with venture investment firms to develop start-up incubation programs.




B Enhance workforce development and access to talent pipelines to drive industry and student engagement.

-  Continue to provide industry-inspired workshops, work with HR representatives from IAB members to drive actionable recruitment efforts, provide opportunities for active student engagement and showcasing.
-  Develop a fintech talent network across different universities and different disciplines.
-  Develop fintech certification programs jointly with the NGO Committee on Private Sector Development at the United Nations on sustainability, impact financing, etc.
-  Develop youth-focused immersion educational programs jointly with the UN and with partnership with high schools.

C Continue to actively recruit new partners in industry and academia.

-  Add new industry partners to the consortium to strengthen the research and talent needs while building additional partners in academia to increase the diversity of affiliated faculty and available research projects for funding.
-  The two specific sectors we are targeting during the next period are the insurance and the consulting industry.
-  Develop global academic partnership through UKFin+ and the UN Green Fintech subcommittee.
-  Encourage diversity equity and inclusion (DEI) throughout all CRAFT activities.

D Assert thought leadership in fintech research and innovation.

-  Continue to use workshops, social media and other public forums to disseminate new knowledge in fintech and advocate social and economic impact.
-  Engage local and federal financial regulators such as the SEC, Federal Reserve, CFTC and Treasury to communicate challenging issues raised by Center members.
-  Develop global leadership in green fintech, impact financing through the UN partnership.



CENTER FOR RESEARCH TOWARD ADVANCING **FINANCIAL TECHNOLOGIES**



“Bank of America is committed to advancing technology in a safe and responsible way. Through CRAFT, we gain the benefit of industry and academia working together on advanced industry trends and risks that benefit our clients and customers.”

Graeme Muirhead

Head of Technology Transformation Programs, Bank of America





January 2023 – The deadline for the requests for proposal of newly submitted research projects was the last day of January 2023.

February 2023 – The academic leadership team, along with the industry advisory board conducted review sessions on the newly submitted research proposals. Based on industry interest, proposals from October 2022, along with January 2023, 15 projects were chosen to present at the Spring 2023 IAB Meeting at RPI.

February 2023 – CRAFT organized a Workforce Development Workshop. The workshop consisted of two panel discussions - one led by industry partners from Bank of America, Charles Schwab, CME and Vanguard, the other by students from Stevens and RPI. Through this workshop, the Center gained valuable insights from industry/HR leaders on how CRAFT can best support workforce development, access to talent initiatives, and best practices on hiring procedures. The first panel was a discussion with Industry/HR leaders on the “state of the industry.” This centered around topics such as current and changing in-demand skill sets in the finance market, what skills firms are looking for, how can CRAFT produce talent firms are interested in, recommendations for fintech courses, hiring challenges, talent development, inflation and costs, factors driving workforce compensation, student recommendations etc. Participants included Dax Hill, Senior Innovation Manager, Vanguard, Eric Leininger, Executive Director, Financial Research & Product Development, CME Group (moderator), and Krupakar Pasupuleti, Tech Executive, Cloud Development and Enablement, Bank of America. The second panel was a “fireside chat” between industry/HR leaders and 4 students from Stevens and RPI. Students led the discussion and asked questions based on career trajectory perspectives. This included items such as job fairs, the hiring process, desirable resume characters, best practices to secure a position, the interview process, how to stand out amongst competition, valuable courses or academic experience, extracurricular activities, advice on becoming a fintech innovator, etc. Students included Noah Porcelain, Stevens UG Student, Agathe Sadeghi, Stevens PhD Student. Cole Paquin, RPI MS Student, and Pierce Phillips, RPI MS Student. Industry participants included Dax Hill, Senior Innovation Manager, Vanguard, Eric Brubaker, Senior Manager R&D, and Charles Schwab. Eric Leininger, Executive Director, Financial Research & Product Development, CME Group, and Mike Purewal, Data Scientist, Bank of America. The workshop concluded with a presentation on the Hanlon Financial Systems Center laboratory, a staple of the finance program at Stevens, a presentation by the SSMIF (Stevens Student Managed Investment Fund) program at Stevens, and a reception.



March 2023 – The third Industry Advisory Board Meeting was held at RPI. The meeting featured an introduction to CRAFT and the industry-university cooperative research center model Keynotes: “Fintech Venture Capital and Start-up Ecosystem” and “Fraud and Anomalies Detection in Financial Service”, a panel discussion on the commercialization of fintech innovations, an academic presentation by the University of Connecticut and 15 cutting-edge research project proposals. Day 2 of the meeting featured a successful administrative session with the IAB where the “pre-proposal lightning rounds” were discussed as a pre-filtering proposal step. The IAB voted to fund five projects which will begin on June 1, 2023. During the session, Bank of America suggested the next IAB meeting at their Bryant Park campus in New York City.

June 2023 - Four currently funded CRAFT projects began on June 1, 2023. They include “Blockchain Interoperability for Business Organizations” PI: Oshani Seneviratne (RPI), “Efficient, Private, and Explainable Federated Learning for Financial Crime Detection” PI: Stacy Patterson (RPI), “Extending, Simulating and Scaling Decentralized Exchanges Made by Automated Market Makers” PI: Zachary Feinstein (Stevens), “Systemic Risk Implications of Central Bank Digital Currencies” PI: Zachary Feinstein (Stevens)



“CRAFT is a leader in showing our partners, sponsors, students and faculty what benefits can be reaped as a result of being embedded and partnering in the New York metropolitan area. CRAFT is also showing the National Science Foundation that its unique investment in fintech research is well placed in supporting this Center and its partnerships with RPI and the rest of the CRAFT team.”

Edmund Synakowski

Vice Provost for Research and Innovation, Stevens Institute of Technology



YEAR 3

July 2023 - CRAFT implemented every-other-month “CRAFT Cadence Calls” between CRAFT leadership, ALT and IAB members. This acts as a Center update and a touch point for on-going discussion items.

September 2023 – CRAFT’s first funded “ignition grants” present their findings at the annual CRAFT Reception Event.

November 2023 – CRAFT held its fourth bi-annual Industry Advisory Board Meeting early in the month at Bank of America. This is the first time an IAB meeting was held at an Industry member location. This collaboration between RPI/Stevens/BoA proved to be greatly beneficial as many long-lasting relationships were solidified and the centralized location of Bank of America’s Bryant Park campus was very convenient for most attendees.

December 2023 – CRAFT visited the United Nations to attend the first ever “Interuniversity Conference on Youth and Education” (invite by ambassador Daniel Del Valle Blanco) with presenters from around the world and continues conversation on launching the UN-subcommittee on green finance initiatives.



“The CRAFT Center has actively partnered with the NGO Committee on Private Sector Development at the United Nations and together we are working on sustainable finance initiatives for underdeveloped countries where we plan to implement education, training, and workforce development. CRAFT is co-creating a fintech sub-committee within the NGO committee, made up of partnering institutions to facilitate these ambitions.”

Giselle Alers

Vice Chairwoman on Private Sector Development