# Pardis Emami-Naeini

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### Research Interests

Transparency in Emerging Digital Technologies, Social and Economic Aspects of Security and Privacy, Statistical Modeling of Security and Privacy Behaviors.

### Education

- 2015–2020 **Ph.D. in Computer Science**, Carnegie Mellon University, Pittsburgh, PA.
  - Advisors: Lorrie Cranor and Yuvraj Agarwal.
  - Thesis Committee: Lujo Bauer and Mohammad Reza Haghighat.
- $2015-2018 \quad \textbf{M.Sc. in Computer Science}, \ Carnegie \ Mellon \ University, \ Pittsburgh, \ PA.$ 
  - Advisor: Lorrie Cranor.
- 2011–2015 B.Sc. in Computer Engineering, Sharif University of Technology, Tehran, Iran.
  - Advisor: Ali Movaghar.

# Employment

- Sept 2022– Assistant Professor, Computer Science Department, Duke University.
- Sept 2022– Assistant Professor (Secondary Appointment), Electrical and Computer Engineering Department, Duke University.
- Apr 2023– Assistant Professor (Secondary Appointment), Sanford School of Public Policy, Duke University.
- Feb 2022– Research Consultant, Consumer Reports.
- Sept 2023
- Aug 2020— Postdoctoral Researcher, University of Washington, Seattle, WA.
- July 2022 Working with Tadayoshi Kohno and Franziska Roesner.

  Quantitatively and qualitatively studying users' privacy and security concerns and atti-

Quantitatively and qualitatively studying users' privacy and security concerns and attitudes toward emerging technologies, including smart cities and remote communication tools.

- June 2020- Postdoctoral Researcher, Carnegie Mellon University, Pittsburgh, PA.
  - Aug 2020 Worked with Lorrie Cranor and Yuvraj Agarwal.

    Investigated the economic aspects of IoT privacy and security labels.
- Aug 2015- Graduate Research Assistant, Carnegie Mellon University, Pittsburgh, PA.
- May 2020 Worked with Lorrie Cranor and Yuvraj Agarwal.

  Established a thorough understanding of how users make privacy-related decisions when interacting with IoT devices, combined the obtained knowledge with experts' insights to develop a privacy and security label for IoT devices, and evaluated its usability and risk communication to effectively inform consumers' IoT-related purchase decision making.
- June 2019 **Research Intern**, Microsoft Research, Redmond, WA.
  - Aug 2019 Worked with Kristin Lauter and Kim Laine.

    Implemented homomorphic encryption schemes onto a system on a chip (SoC).
- June 2017 Research Intern, Intel Corporation, Santa Clara, CA.
  - Aug 2017 Worked with Mohammad Reza Haghighat, Richard Chow, and Heather Patterson. Investigated the impact of social influence on IoT-related privacy decision making.
- June 2014 Undergraduate Research Assistant, Sharif University of Technology, Tehran, May 2015 Iran.

Worked with Ali Movaghar.

Developed and evaluated algorithms for energy efficient networking in wireless sensor networks and software defined networks (SDN).

- June 2014 Research Intern, University of Michigan, Ann Arbor, MI.
  - Aug 2014 Worked with Mina Rais-Zadeh.

Designed and implemented a chip-scale clock that had consistency in the presence of fluctuations under extreme conditions, such as outer space.

- June 2014 Research Intern, University of Michigan, Ann Arbor, MI.
  - Aug 2014 Worked with David Neuhoff.

Designed a method to classify different wood textures with minimum array of pixels information.

- June 2013– Research Intern, University of Michigan, Ann Arbor, MI.
- Aug 2013 Worked with Igor Markov.

Conducted research on optimizing the area and power in logic circuits.

- June 2012 Research Intern, Massachusetts Institute of Technology, Boston, MA.
  - Aug 2012 Worked with Iman Soltani Bozchalooi.

Designed a wide-band nano-positioning stage for high-frequency stimulation of cartilage tissue for osteoarthritis research.

### **Publications**

### Conference Proceedings

- C20 Jiaxun Cao, Abhinaya S B, Anupam Das, and **Pardis Emami-Naeini**. Understanding Parents' Perceptions and Practices Toward Children's Security and Privacy in Virtual Reality. In Proceedings of the 45<sup>th</sup> IEEE Symposium on Security and Privacy (S&P'24).
- C19 Jiaxun Cao, Hiba Laabadli, Chase H. Mathis, Rebecca D. Stern, and **Pardis Emami-Naeini**. "I Deleted It After the Overturn of Roe v. Wade": Understanding Women's Privacy Concerns Toward Period-Tracking Apps in the Post Roe v. Wade Era. In Proceedings of the 42<sup>nd</sup> ACM Conference on Human Factors in Computing Systems (CHI'24), Appearing at PrivacyCon 2024.
- C18 **Pardis Emami-Naeini**, Joe Breda, Wei Dai, Tadayoshi Kohno, Kim Laine, Shwetak Patel, and Franziska Roesner. Understanding People's Concerns and Attitudes Toward Smart Cities. *In Proceedings of the 41st ACM Conference on Human Factors in Computing Systems (CHI'23)*.
- C17 Aritra Ray, Sohini Saha, Krishnendu Chakrabarty, Leslie Collins, Kyle Lafata, and **Pardis Emami-Naeini**. Exploring the Impact of Ethnicity on Susceptibility to Voice Phishing. In Proceedings of the 19<sup>th</sup> Symposium on Usable Privacy and Security (SOUPS'23).
- C16 Sophie Stephenson, Majed Almansoori, **Pardis Emami-Naeini**, Danny Yuxing Huang, and Rahul Chatterjee. Abuse Vectors: A Framework for Conceptualizing IoT-Enabled Interpersonal Abuse. *In Proceedings of the 32<sup>nd</sup> USENIX Security Symposium (USENIX Security'23)*.
- C15 **Pardis Emami-Naeini**, Janarth Dheenadhayalan, Yuvraj Agarwal, and Lorrie Cranor. Are Consumers Willing to Pay for Security and Privacy of IoT Devices? In Proceedings of the 32<sup>nd</sup> USENIX Security Symposium (USENIX Security'23).
- C14 Sophie Stephenson, Majed Almansoori, **Pardis Emami-Naeini**, and Rahul Chatterjee. "It's the Equivalent of Feeling Like You're in Jail": Lessons from Firsthand and Secondhand Accounts of IoT-Enabled Intimate Partner Abuse. *In Proceedings of the 32<sup>nd</sup> USENIX Security Symposium (USENIX Security'23)*.
- C13 Miranda Wei, **Pardis Emami-Naeini**, Tadayoshi Kohno, and Franziska Roesner. Skilled? Gullible? Likely to Install Software Updates and Verify HTTPS? Investigating Gender Stereotypes Related to Computer Security and Privacy. In Proceedings of the 44<sup>th</sup> IEEE Symposium on Security and Privacy (S&P'23).
- C12 Abigale Stangl, Emma Sadjo, **Pardis Emami-Naeini**, Yang Wang, Danna Gurari, and Leah Findlater. "Dump it, Destroy it, Send it to Data Heaven": Blind People's Expectations for Visual Privacy in Visual Assistance Technologies. *In the Proceedings of the 20<sup>th</sup> International Web for All Conference (W4A'23)*.

- C11 Kentrell Owens, Johanna Gunawan, Dave Choffnes, **Pardis Emami-Naeini**, Tadayoshi Kohno, and Franziska Roesner. Exploring Deceptive Design Patterns in Voice Interfaces. *In Proceedings of the European Symposium on Usable Security (Euro USEC'22)*.
- C10 **Pardis Emami-Naeini**, Tiona Francisco, Tadayoshi Kohno, and Franziska Roesner. Understanding Privacy Attitudes and Concerns Towards Remote Communications During the COVID-19 Pandemic. *In Proceedings of the 17<sup>th</sup> Symposium on Usable Privacy and Security (SOUPS'21)*.
- C9 Pardis Emami-Naeini, Janarth Dheenadhayalan, Yuvraj Agarwal, and Lorrie Cranor. Which Privacy and Security Attributes Most Impact Consumers' Risk Perception and Willingness to Purchase IoT Devices? In Proceedings of the 42<sup>nd</sup> IEEE Symposium on Security and Privacy (S&P'21).
- C8 **Pardis Emami-Naeini**, Yuvraj Agarwal, Lorrie Cranor, and Hanan Hibshi. Ask the Experts: What Should Be on an IoT Privacy and Security Label? *In Proceedings of the 41st IEEE Symposium on Security and Privacy (S&P'20)*.
- C7 Pardis Emami-Naeini, Yuvraj Agarwal, Lorrie Cranor, and Henry Dixon. Exploring How Privacy and Security Factor into IoT Device Purchase Behavior. In Proceedings of the 37<sup>th</sup> ACM Conference on Human Factors in Computing Systems (CHI'19).
- C6 Pardis Emami-Naeini, Martin Degeling, Richard Chow, Lujo Bauer, Lorrie Cranor, Mohammad Reza Haghighat, and Heather Patterson. The Influence of Friends and Experts on Privacy Decision Making in IoT Scenarios. In Proceedings of the 21<sup>st</sup> ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW'18).
- C5 Hana Habib, **Pardis Emami-Naeini**, Summer Devlin, Maggie Oates, Chelse Swoopes, Lujo Bauer, Nicolas Christin, and Lorrie Faith Cranor. User Behaviors and Attitudes Under Password Expiration Policies. *In Proceedings of the 14<sup>th</sup> Symposium on Usable Privacy and Security (SOUPS'18)*.
- C4 Sarah Pearman, Jeremy Thomas, **Pardis Emami-Naeini**, Hana Habib, Lujo Bauer, Nicolas Christin, Lorrie Faith Cranor, Serge Egelman, and Alain Forget. Let's Go in For a Closer Look: Observing Passwords in Their Natural Habitat. In Proceedings of the 24<sup>th</sup> ACM Conference on Computer and Communications Security (CCS'17).
- C3 **Pardis Emami-Naeini**, Sruti Bhagavatula, Hana Habib, Martin Degeling, Lujo Bauer, Lorrie Cranor, and Norman Sadeh. Privacy Expectations and Preferences in an IoT World. *In Proceedings of the 13<sup>th</sup> Symposium on Usable Privacy and Security (SOUPS'17)*.
- C2 Blase Ur, Felicia Alfieri, Maung Aung, Lujo Bauer, Nicolas Christin, Jessica Colnago, Lorrie Faith Cranor, Henry Dixon, **Pardis Emami-Naeini**, Hana Habib, Noah Johnson, and William Melicher. Design and Evaluation of a Data-Driven Password Meter. In Proceedings of the 35<sup>th</sup> ACM Conference on Human Factors in Computing Systems (CHI'17).

C1 Primal Pappachan, Martin Degeling, Roberto Yus, Anupam Das, Sruti Bhagavatula, William Melicher, **Pardis Emami-Naeini**, Shikun Zhang, Lujo Bauer, Alfred Kobsa, Sharad Mehrotra, Norman Sadeh, and Nalini Venkatasubramanian. Towards Privacy-Aware Smart Buildings: Capturing Communicating, and Enforcing Privacy Policies and Preferences. In Proceedings of the 37<sup>th</sup> IEEE International Conference on Distributed Computing Systems Workshops (ICDCSW'17).

### Magazine and Journal Papers

- J3 Lorrie Cranor, Yuvraj Agarwal, and **Pardis Emami-Naeini**. Internet of Things Security and Privacy Labels Should Empower Consumers. *Communications of the ACM*, 2024.
- J2 Noah Apthorpe, **Pardis Emami-Naeini**, Arunesh Mathur, Marshini Chetty, and Nick Feamster. You, Me, and IoT: How Internet-Connected Consumer Devices Affect Interpersonal Relationships. *ACM Transactions on Internet of Things*, 2022.
- J1 Pardis Emami-Naeini, Janarth Dheenadhayalan, Yuvraj Agarwal, and Lorrie Cranor. An Informative Security and Privacy 'Nutrition' Label for Smart Devices. *IEEE Security & Privacy*, 2021.

# Fellowships and Grants

- 2023 ORAU Ralph E. Powe Junior Faculty Enhancement Award.
- 2023 Duke Arts & Sciences Council Committee on Faculty Research (ASC-CFR).

### Selected Awards and Honors

- 2024 Selected the Top 5% Instructor in the Duke Trinity College.
- 2022 Duke Science and Technology Scholar.
- 2021 IEEE S&P paper selected to be highlighted in the IEEE Security and Privacy Magazine.
- 2019–2020 CyLab Presidential Fellowship.
  - 2019 Rising Stars Research Pitch Award.
- 2018–2019 UnifyID AI Fellowship (Declined).
  - 2017 Best Paper Award at CHI'17.
  - 2017 Scholarship Grant to attend Women in CyberSecurity conference (WiCyS).
  - 2017 Scholarship Grant to attend Enigma.
  - 2016 Scholarship Grant to attend Grace Hopper Celebration.
  - 2016 Scholarship Grant to attend USENIX Security.
  - 2016 Scholarship Grant to attend Women in CyberSecurity conference (WiCyS).
- 2012–2015 Ranked 2<sup>nd</sup> in GPA among undergraduate students in the Department of Computer Engineering, Sharif University of Technology.

### **Invited Talks**

- 2024 Privacy and Security By People, for People, Society of Women in Science.
- 2022 Empowering People to Have Secure and Private Interactions with Digital Technologies.
  - Georgia Institute of Technology: School of CyberSecurity and Privacy
  - University of Michigan: Department of Computer Science and Engineering
  - Northeastern University: Khoury College of Computer Sciences
  - Ouke University: Department of Computer Science
  - University of California San Diego: Department of Computer Science and Engineering
  - O University of California San Diego: Halıcıoğlu Data Science Institute
  - Pennsylvania State University University: Department of Computer Science and Engineering
  - Pennsylvania State University: College of Information Sciences and Technology
  - North Carolina State University: Department of Computer Science
  - Washington University in St. Louis: Department of Computer Science and Engineering
  - Johns Hopkins University: Department of Computer Science
  - Emory University: Department of Computer Science
  - Vanderbilt University: Department of Computer Science
  - University of Colorado Boulder: Department of Computer Science
  - University of Toronto: Department of Computer Science
  - Ecole Polytechnique Fédérale de Lausanne: School of Computer and Communication Sciences
  - Imperial College London: Department of Computing
  - o CISPA Helmholtz Center for Information Security
  - Max Planck Institute for Security and Privacy
- 2022 Designing an Informative and Usable Security and Privacy Label for IoT Devices, Northwestern University.
- 2021 Designing an Informative and Usable Security and Privacy Label for IoT Devices, *University of California*, *Berkeley*.
- 2021 Designing an Informative and Usable Security and Privacy Label for IoT Devices, *Imperial College London*.
- 2021 Ethical Aspects of Security and Privacy Research: Overview of User-Centered Research Techniques, *University of Denver*.

- 2021 Designing an Informative and Usable Security and Privacy Label for IoT Devices, Responsible Data Science and AI Talk Series, University of Illinois Urbana-Champaign.
- 2021 The Human Element in Autonomous Cyber Security Workshop, Florida Institute of Technology.
- 2021 **Designing an IoT Privacy and Security Label**, National Institute of Standards and Technology (NIST).
- 2021 Privacy and Security Nutrition Labels to Inform IoT Consumers, Bace Cybersecurity Institute.
- 2020 Informing Privacy and Security Decision-Making in an IoT World, University of Maine.
- 2020 Informing Privacy and Security Decision-Making in an IoT World, University of Illinois Urbana-Champaign.
- 2020 **Designing an IoT Privacy and Security Label**, Cellular Telecommunications Industry Association (CTIA).
- 2019 Informing Privacy and Security Decision-Making in an IoT World, Rising Stars in CS Talk Series, University of Massachusetts Amherst.
- 2019 Security and Privacy Nutrition Labels for IoT Devices, CyLab Partners Conference, Carnegie Mellon University.
- 2019 Privacy Enhancing Environmental Technology, Microsoft Research.
- 2018 "Erm... What do you think?" The Effect of the Crowd in Making Privacy Decisions, Intel Corporation.

# **Selected Presentations**

- 2023 Designing an Informative and Usable Security and Privacy Label for IoT Devices, Duke Network/Security Research Projects, Office of Information Technology (OIT), Duke University.
- 2023 Designing an Informative and Usable Security and Privacy Label for IoT Devices, Center for Computational Thinking, Duke University.
- 2021 Safe and Secure with IoT Nutrition Labels, USENIX Enigma'21.
- 2021 Internet of Things, PrivacyCon'21.
- 2020 Internet of Things, PrivacyCon'20.
- 2018 Consumer Preferences, Expectations, and Behaviors Session, PrivacyCon'18.

# Invited Panel and Keynote Appearances

2023 Internet-of-Things Device Labeling Systems and US Cybersecurity, The Atlantic Council.

- 2023 Ethical Technology Series, Duke University.
- 2023 Future of Computing & Communications, Duke University.
- 2023 Designing an Informative and Usable Security and Privacy Label for Smart Devices, NC State University.
- 2021 Designing for Data Awareness: Addressing Privacy and Security Concerns About "Smart" Technologies Workshop, CSCW'21.
- 2021 WARNING: This Label is Really Important, Open Technology Institute (in partnership with Consumer Reports).
- 2021 Decadal Plan for Semiconductors: Measurable ICT Security and Privacy, Semiconductor Research Corporation.
- 2020 Smart Home Energy Management Systems (SHEMS) Pitch Party, Energy Star.

# Selected Teaching Experience

- 2024 **Instructor**, Duke University COMPSCI 586: Usable Security.
- 2023 **Instructor**, Duke University COMPSCI 290: User Research Methods.
- 2023 **Instructor**, Duke University COMPSCI 590: Usable Security.
- 2019 **CS Teaching Assistant**, Carnegie Mellon University CS 17-331: Information Security, Privacy, and Policy.
- 2019 **CS Teaching Assistant**, Carnegie Mellon University CS 17-735: Engineering Privacy in Software.
- 2014 **CE Teaching Assistant**, Sharif University of Technology CE 40-215: Numerical Analysis.
- 2012 **CE Teaching Assistant**, Sharif University of Technology CE 40-153: Fundamentals of Programming.

# **Professional Service**

#### External Service

- 2023–2024 Cultural Competence in Computing (3C) Fellow.
  - 2024 Program Committee Member.
    - ACM Conference on Human Factors in Computing Systems (CHI)
    - IEEE Symposium on Security and Privacy (S&P)
    - USENIX Security Symposium

#### 2023 Review Panel Member.

- National Science Foundation (NSF)
- Swiss National Science Foundation (SNSF)

#### 2023 Conference Session Chair.

• USENIX Security Symposium

#### 2023 Program Committee Member.

- ACM Conference on Fairness, Accountability, and Transparency (FAccT)
- IEEE Symposium on Security and Privacy (S&P)
- USENIX Security Symposium
- Privacy Enhancing Technologies Symposium (PETS)
- ACM Conference on Computer-Supported Cooperative Work (CSCW)
- ACM Conference on Security and Privacy in Wireless and Mobile Networks (WiSec)

#### 2022 Program Committee Member.

- IEEE Symposium on Security and Privacy (S&P)
- USENIX Security Symposium
- Privacy Enhancing Technologies Symposium (PETS)
- ACM Conference on Computer-Supported Cooperative Work (CSCW)
- Workshop on Usable Security and Privacy (USEC)
- IEEE Workshop on the Internet of Safe Things (SafeThings)

#### 2021 Program Committee Member.

- USENIX Security Symposium
- ACM Conference on Computer-Supported Cooperative Work (CSCW)
- European Symposium on Research in Computer Security (ESORICS)

#### 2021 Posters and Demos Program Committee Member.

• ACM Conference on Computer and Communications Security (CCS)

#### 2020 Program Committee Member.

- ACM International Conference on Intelligent User Interfaces (IUI)
- International Conference on Advances in Computer-Human Interactions (ACHI)

#### 2019 Conference Chair.

- Workshop on "Ubiquitous Privacy: Research and Design for Mobile and IoT Platforms," ACM Conference on Computer-Supported Cooperative Work (CSCW)
- Session on "Accessible Content Creation," ACM Conference on Human Factors in Computing Systems (CHI)

#### 2016–2022 Invited Conference Reviewer.

- USENIX Security Symposium
- Privacy Enhancing Technologies Symposium (PETS)
- ACM Conference on Human Factors in Computing Systems (CHI)
- ACM Conference on Computer-Supported Cooperative Work (CSCW)
- Network and Distributed System Security Symposium (NDSS)
- ACM Symposium on User Interface Software and Technology (UIST)
- ACM Conference on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT)

#### 2019–2022 Invited Journal Reviewer.

- ACM Transactions on Computer-Human Interaction (TOCHI)
- Journal of Computer Security (JCS)
- Communications of the ACM
- IEEE Access

#### **Internal Service**

#### 2023-Present Hiring Committee Member.

 Ph.D. Admissions Committee, Department of Computer Science, Duke University

### 2020 Hiring Committee Member.

- Faculty Hiring Committee, School of Computer Science, Carnegie Mellon University
- Ph.D. Admissions Committee, School of Computer Science, Carnegie Mellon University

### Media Coverage

- 2023 **The White House**, Internet of Things Labeling Initiative (US Cyber Trust Mark for IoT Devices).
- 2023 **CBS News**, Zoom updates terms of service amid concerns over data collection for AI.
- 2023 National Science Foundation, Pioneering research in IoT device privacy and security.
- 2023 **StateScoop**, People like 'smart cities,' but aren't sure about the tech, survey finds.
- 2023 WFDD, Duke University study shows concern over 'smart city technology'.
- 2021 Washington Post, Big Tech is Pushing Smart Home Devices as the Latest Work-from-Home Tools.

- 2021 Vox, Your Echo Is Now Sharing Your Internet With Your Neighbors. Here's How To Opt Out.
- 2021 Consumers' Checkbook, Are You Sharing Your Wi-Fi with Amazon? If So, Should You Be Concerned?.
- 2021 **TechXplore**, CyLab's IoT Security And Privacy Label Effectively Conveys Risk, Study Finds.
- 2021 Consumer Reports, Connected Devices Share More Data Than Needed, Study Says.
- 2021 **The Seattle Times**, Zoom Bombings That Target Marginalized People Spark Demands For Legal Protections.
- 2020 The Wall Street Journal, Imagine A Nutrition Label—For Cybersecurity.
- 2020 WIRED, Apple's App 'Privacy Labels' Are Here—And They're A Big Step Forward.
- 2020 Consumer Reports, How To Use Apple's Privacy Labels For Apps.
- 2020 WIRED, IoT Security Is A Mess. Privacy 'Nutrition' Labels Could Help.
- 2020 BankInfoSecurity, Product Labels Could Make IoT Risks More Transparent.
- 2020 Digital Privacy Podcast, Episode 1: Digital Privacy With Pardis Emami Naeini.
- 2020 **TechXplore**, IoT Labels Will Help Consumers Figure Out Which Devices Are Spying On Them.
- 2019 **TechXplore**, Security And Privacy Rarely Considered Before Buying IoT Devices.

# Mentorship Experience

# **Duke University**

- 2023-Present Jabari Kwesi (Ph.D. Student).
- 2023–Present Henry Bell (Ph.D. Student).
- 2023–Present Wanyi Chen (Ph.D. Student–Thesis Committee).
- 2024–Present Danielle Park (Undergraduate Student).
- $2024{\rm -Present}\quad {\rm Sofa}\ {\rm Radkova}\ ({\rm Undergraduate}\ {\rm Student}).$
- 2024–Present Aayushi Patel (Undergraduate Student).
- 2024–Present Avery Tandon (Undergraduate Student).
- 2024–Present Meeraa Ramakrishnan (Undergraduate Student).
- 2024–Present Marvin Tai (Undergraduate Student).
- $2023{\rm -Present} \quad {\rm Robin} \ \ {\rm Koshelev} \ \ ({\rm Undergraduate} \ \ {\rm Student}).$
- 2023–Present Hiba Laabadli (Undergraduate Student).
- $2022{\rm -Present}\quad {\rm Jessie~Cao~(Undergraduate~Student)}.$
- 2023–Present Iman Alipour (Undergraduate Student).

- 2023-Present Iman Mohammadi (Undergraduate Student).
  - 2023 Shruti Pandey (Masters Student).
  - 2023 Sparsha Perupalli (Masters Student).
  - 2022 Rebecca Stern (Undergraduate Student-Independent Study Adviser).
  - 2022 Chase Mathis (Undergraduate Student).
  - 2022 Yasha Doddabele (Undergraduate Student).
  - 2022 Sabina Taneja (Undergraduate Student-Independent Study Adviser).
  - 2022 Janis Zhu (Undergraduate Student-Independent Study Adviser).
  - 2022 Song Young Oh (Masters Student).
  - 2022 Max Murakami-Moses (Undergraduate Student).
  - 2022 Luke Nam (Undergraduate Student).
  - 2022 Alan Wang (Undergraduate Student).
  - 2022 Akshal Jain (Undergraduate Student).
  - 2022 Ellen Zeng (Undergraduate Student).
  - 2022 Alice Hu (Undergraduate Student).

### **Consumer Reports**

- 2023 Yi-Shyuan Chiang (PhD Student at the University of Illinois Urbana-Champaign).
- 2023 Wentao Guo (PhD Student at the University of Maryland).
- 2023 Titilola Afolabi (PhD Student at Duke University).

# University of Washington

- 2022 Inyoung Cheong (PhD Student).
- 2022 Kentrell Owens (PhD Student).
- 2021–2022 Markus Schiffer (Master's Student).
- 2020–2022 Miranda Wei (PhD Student).
  - 2020 Tiona Francisco (Undergraduate Student).

# Carnegie Mellon University

- 2020–2021 Janarth Dheenadhayalan (Master's Student).
- 2020–2021 Michelle Ling (Undergraduate Student).
  - 2020 Huilin Liu (Master's Student).
  - 2020 Ziyuan Zhu (Undergraduate Student).
  - 2019 Shreyas Nagare (Undergraduate Student).