Shruti Misra

Mixed-methods researcher and data scientist with 4+ years of experience
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EDUCATION

PhD, Electrical and Computer Engineering, *University of Washington* (Sept 2018- Oct 2023)

- Relevant coursework: Data Visualization, Statistical Learning and Qualitative Methods
- Nine peer-reviewed publications in ASEE and CDC

MS, Electrical and Computer Engineering, *University of Washington* (Sept 2016- Jun 2018)

BS, Electrical and Computer Engineering, *University of Washington* (Sept 2012 – Jun 2016)

SKILLS

Programming: Python (pandas, matplotlib, scikit-learn, scipy, seaborn, keras), R, git, HTML/CSS, MATLAB, C

Research Methods: Exploratory factor analysis, regression, classification, network analysis, surveys, document analysis, interviews

WORK EXPERIENCE

Venture Analyst, *Pack Ventures* (Jan 2022-Present)

- Enabled informed investment decision-making and portfolio growth by combining market size analyses, competitive analyses, go-to-market strategy analyses and exit analysis to evaluate the growth potential of early-stage companies in various industries.
- Prepared investment memos summarizing the investment thesis, key risks, and opportunities discovered by conducting due diligence research (as outlined above).

Graduate Research Assistant, *University of Washington* (Sept 2018 – Present)

Designed quantitative and qualitative studies to identify key factors that measure the role of university-industry collaborations in innovation ecosystems.

- Performed an extensive literature review to identify and collect 15 potential metrics of innovation from 5+ public and private databases for 30 metropolitan regions in the U.S.
- Designed a Tableau dashboard as an interview probe to identify relevant metrics for different stakeholder groups.
- Conducted 10+ interviews and think-aloud sessions to discover relevant information for and information-seeking practices of different university and industry stakeholders to enhance collaboration in innovation ecosystems.

Designed mixed-methods studies to increase understanding of students' design experiences in industry capstone projects.

- Designed and analyzed online surveys of 150+ students over 2 years to study students' perceptions of learning.
- Discovered the crucial role of team and mentor support and student resilience in improving student outcomes and informing the development of more effective industry sponsored capstone programs.
- Published findings in a leading engineering education conference.

Developed a machine learning approach to model defense against Advanced Persistent Threats (APTs) in cybersecurity.

- Developed a new model to simulate APTs by implementing input convex neural networks (ICNN) in Python.
- Used training data from real cyber-attacks to achieve approximate Nash Equilibria for the attacker and defender.
- Published and presented the work at a leading conference, in collaboration with other co-authors.

Senior Design Capstone Manager, *University of Washington* (Sept 2018 – Present)

- Led the development and growth of 5 cohorts of the capstone program, during which the program grew from 85+ (20+ projects) to 250+ students (50+ projects).
- Managed a team of 4 teaching assistants, ensuring consistent program outcomes for students.

- Designed and implemented a program evaluation framework, resulting in improvement in student engagement.
- Mentored 150+ (50+ teams) in design project scoping, technical assistance, and project management, resulting in successful project completion.

Commercialization Fellow, *Buerk Center for Entrepreneurship, University of Washington* (Jun 2022-Aug 2022)

- Conducted 20+ stakeholder interviews to inform the design, pricing, regulatory, and reimbursement strategy for a childhood asthma management app.
- Identified key design requirements for a minimum viable product (MVP) and beachhead customers through market research and competitor analysis of 20 competitors.
- Delivered and presented a feasible 6-year commercialization plan to the client and program coordinators.

Technical Consultant, *Moonbeam Exchange* (Jul 2021-Sept 2021)

- Designed and launched the Congregate Accelerator website in Squarespace, to ensure optimal user experience.
- Identified and recommended a suitable technology stack for program management through in-depth research.
- Helped select companies for the program's first cohort by conducting extensive scouting across diverse industries.

Firmware Engineering Intern, *Microsoft* (Jun 2019-Sept 2019)

- Designed and tested firmware to support sparse computations in Brainwave's BERT framework.
- Demonstrated significant decrease in latency that scaled with sequence length and sparsity.
- Identified ways to improve resource utilization by packing dense tiles together, highlighting the potential for even greater improvements with larger and sparser datasets.

Embedded Systems & Full-Stack Engineering Intern, *Athena Energy Corp* (Jun 2015-Sept 2015)

- Designed a PCB to connect a solar inverter to the web and developed a user-facing web application for display.
- Developed a PCB, frontend, and backend software for a motion-sensing camera unit for image upload to the web.
- Developed embedded and front-end software for a smart power outlet that users can control via their phone.

AWARDS & HONORS

- DEI Travel Award, Department of Electrical and Computer Engineering, 2023
- Venture Fellowship, Pack Ventures, 2023
- Husky 100, 2022: Awarded annually to 100 students across all University of Washington (UW) campuses.
- Finalist, Hollomon Health Innovation Challenge, UW, 2022
- Finalist, Excellence in Teaching Award, University of Washington, 2022: Awarded across all departments at UW.
- ITHS/WRF Summer Commercialization Fellowship, Buerk Center for Entrepreneurship, UW, 2022
- Best Diversity Paper in the New Engineering Educators Division, ASEE, 2021
- Outstanding Teaching Assistant Award, Department of Electrical and Computer Engineering, UW, 2018
- Emerging Leaders in Engineering Scholarship, College of Engineering, UW, 2015

SERVICE

- Reviewer for 2 conferences
- Student Representative, Department of Electrical and Computer Science Diversity Equity and Inclusion Committee, 2021-2022
- Student Representative Department of Electrical and Computer Science Curriculum Committee, 2018-2020
- Entrepreneurship Committee Member, Grace Hopper Conference 2020
- Volunteer Program Facilitator, STEM Alternative Spring Break Program, University of Washington, 2016-2020
- Project Lead, UW Solar, 2015-2016
- Peer Mentor, University of Washington College of Engineering, 2014-2015
- Student Educator, Environmental Alternative Spring Break Program, University of Washington, 2013