

# Shruti Misra

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

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**PhD, Electrical and Computer Engineering (GPA: 3.81/4.00), *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

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**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

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

- Aided informed investment decision-making by conducting thorough market and industry research for opportunities under consideration.
- Assisted senior partners with deal analysis, and due diligence for early-stage companies in various industries, resulting in successful investments and portfolio growth.
- Prepared investment memos highlighting investment thesis, key risks, and opportunities.

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

Designed quantitative and qualitative studies to key identify factors that characterize innovation ecosystems.

- Identified potential metrics of regional innovation through analysis of data from 5+ public and private databases.
- Collaborated in a team to design a [dashboard](#) in Tableau for diverse stakeholder groups.
- Obtained user feedback through surveys and interviews to identify relevant metrics and key design directions.

Designed quantitative and qualitative studies to understand students' design experiences in industry capstone projects.

- Designed and conducted surveys of 150+ students over 2 years to study students' perceptions of learning.
- Identified key factors related to student learning through exploratory factor analysis and regression models in R.
- Highlighted the role of [mentor support](#) and [student resilience](#) in the capstone through qualitative analyses.
- 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 optimal strategies 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](#).
- Conducted market research and competitor analysis of 20 competitors to identify key design requirements for a minimum viable product (MVP) and target beachhead customers to inform data-driven product development.
- 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.

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**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

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**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