BEATRICE LI

Ph.D. Student

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EDUCATION

Doctor of Philosophy – Systems Engineering | University of Virginia (UVA)　　　　　　　Aug 2021 – Present
- Expected Graduation: Spring 2025
- Advisor: Dr. Arsalan Heydarian
- Cumulative GPA: 3.9/4.0
- Qualifying Exam: September 2022

Master of Engineering – Systems Engineering | University of Virginia (UVA)　　　　　　　May 2023
- Cumulative GPA: 3.9/4.0

Bachelor of Science – Systems Engineering | University of Virginia (UVA)　　　　　　　May 2021
- Software and Information Systems Application
- Cumulative GPA: 3.5/4.0

TECHNICAL SKILLS

Coding Languages: Python; R; SQL; Java
Data Analysis Software/Packages: Pandas, Scikit-learn, Matplotlib, NumPy, OpenMX, PostgreSQL, MongoDB, Tableau
U.S. DOD Security Clearance: Secret (04/2020)
Web Development: Django, HTML, CSS
Other Skills: Time Series Analysis, Agile

WORK EXPERIENCE

Quantitative Analyst Intern | CoStar Group – Risk Analytics, *Boston MA*　　　　　Jun 2023 – Aug 2023
- Developed machine learning models for predicting delinquency in residential mortgages
- Reviewed research and current models for predicting probability of loan delinquency
- Outlined future steps in utilizing machine learning in company products

Systems Engineering Intern | Northrop Grumman – Mission Systems, *Linthicum MD*　　　Jun 2020 – Aug 2020
- Created a GUI utilizing Python and established a NoSQL cloud database
- Presented insights on cloud providers and databases to internal clients

RESEARCH

Perception of User Privacy in Smart Infrastructure Systems　　　　　　　　　　Sept 2021 – Present
University of Virginia, *Charlottesville VA*
- To understand user perceptions of privacy in the context of smart buildings.
- Conducted interview and survey studies to evaluate individual understanding and awareness of privacy considerations in smart buildings and IoTs
- Published research in *Scientific Reports* journal, titled "Occupant privacy perception, awareness, and preferences in smart office environments."

Living Link Lab and Well-being　　　　　　　　　　　　　　　　　　　　　Oct 2021 – Present
University of Virginia, *Charlottesville VA*
- To study influential environmental and human factors to the well-being and productivity of residents in the Link Lab (up to 150 occupants)
- Utilized IoT devices, wearables, smartphones, and automated distribution of surveys for active and passive data collection
- Conducted data analysis of multiple data streams utilizing machine learning and Python packages – pandas, NumPy, plotly
- Updated website to improve survey compliance using Django and Google Cloud Platform

Trust & Security of Advanced Logistics Systems with Embedded Smart Devices   Sept 2020 – May 2021
University of Virginia*, Charlottesville VA*

- To address needs of military and industry for logistics and supply chains with respect to security and risk management of hardware and embedded systems.
- The testbeds were (1) development and acquisition of hypersonic aviation technologies, and (2) bi-directional charging of fleet electric vehicles.
- Conducted scenario-based risk analysis to inform security and risk management strategies.
- Presented to industry sponsors, U.S. Army Corps of Engineers, members of the NSF Center for Hardware & Embedded Systems Security & Trust

PRESENTATIONS

- Systems and Information Engineering Design Symposium, University of Virginia, 2021

PUBLICATIONS

Peer-Reviewed Journal Papers

- **Li, B.**, Tavakoli, A. & Heydarian, A. Occupant privacy perception, awareness, and preferences in smart office environments. *Sci Rep* 13, 4073 (2023). https://doi.org/10.1038/s41598-023-30788-5

Peer-Reviewed Conference Papers

- **Li, B.**, Tavakoli, A., Wang, A., Kaur, N., Barnes, L., Doryab, A., & Heydarian, A. (2023). Measuring Success, One Sensor at a Time: A Sensing Infrastructure for Longitudinal Workspace Behavior Monitoring. *BuildSys '23: The 10th ACM International Conference on Systems for Energy-Efficient Buildings, Cities, and Transportation*, 1–8.
- Vanye, C. M., **Li, B. E.**, Koch, A. T., Luu, M. N., Adekunle, R. O., Moghadasi, N., Collier, Z. A., Polmateer, T. L., Barnes, D., Slutzky, D., Manasco, M. C., & Lambert, J. H. (2021). Trust and Security of Embedded Smart Devices in Advanced Logistics Systems. *2021 IEEE Systems and Information Engineering Design Symposium, SIEDS 2021*. https://doi.org/10.1109/SIEDS52267.2021.9483779

COURSEWORK

- Structural Equation Modeling
- Optimization Models
- Formal Methods, Safety & Security
- Multivariate Analysis
- Signal Processing, Machine Learning and Control
- Dynamical Systems Analysis
- Applied Time Series
- Human-Computer Interaction

LEADERSHIP & INVOLVEMENT

Graduate Society of Women Engineers (SWE) | Member, UVA	2022 – Present
Graduate Engineering Student Council | Social Committee, UVA	2022 – Present
Link Lab Student & Professional Development Committee | Member, UVA	2022 - Present
NSF- International Research Experiences for Students (IRES) | US-S.Korea Fellow	2022
First-Generation & Low-Income Partnership (FLIP) | Chair of Programming, UVA	2019 –2021
Virginia Rowing Association | Coxswain, UVA	2018 – 2019