

Pundit Vorakitolan

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Education

University of Oklahoma
B.S. Electrical Engineering

Fall 2022 – Spring 2026

Experience

MIT Lincoln Laboratory

SATCOM Research Intern, Advanced Satellite Systems Group

May '24 – Present

Boston, MA

- Designed a low Earth orbit satellite tracking terminal targeting the GPS L1 band and Iridium constellation
- Fabricated a circularly polarized wire antenna feed for a parabolic dish antenna using HFSS simulation software
- Demonstrated an RF front end design fed to a software defined radio (SDR), using ADS to design impedance matching PCBs
- Created software to control and operate an antenna positioner to track LEO and MEO satellites based on TLEs
- Reduced total cost of the terminal to be 90% cheaper than a commercial off-the-shelf system

Advanced Radar Research Center

Research Assistant, Dr. Jessica Ruyle

Nov '22 – Present

Norman, OK

- Aided in the measurement and characterization of electrically small antennas to overcome physical gain/bandwidth limits using non-LTI systems and performed load pull analysis to characterize non-LTI amplifiers

MIT Lincoln Laboratory

Technical Assistant, RF Technology Group

Sept '23 – Feb '24

Boston, MA

- Optimized performance of a satellite antenna design by controlling phase states for individual patch antenna elements within a 19,000 element reflectarray antenna (NASA CREWSR program)
- Improved beam efficiency of the antenna from 89% to 93% with a quicker optimization algorithm, resulting in a publication

Electromagnetics Research Intern

May '23 – Aug '23

- Built local-search optimization algorithms into MATLAB simulations to calculate ideal phase configurations and maximize antenna array beam efficiency, reducing runtime by orders of magnitude

Boeing

Electromagnetic Effects Intern

June '22 – Jan '23

Oklahoma City, OK

- Authored EMC/EMI test procedures for the Korea E-737 AEW&C to verify aircraft system upgrade performance
- Assisted with electromagnetic compatibility testing (MIL-STD-461 and DoD AIMS standards) using common measurement lab equipment such as VNAs, spectrum analyzers, and oscilloscopes
- Automated post-processing and analysis of S-parameter data from antenna coupling simulations using MATLAB scripts, allowing for the computation of larger datasets and reducing creation time for RF cosite reports

Spiers New Technologies

Electrical Engineering Intern

Sept '21 – May '22

Oklahoma City, OK

- Designed a portable, remote surveillance system for real-time monitoring of newly built EV battery facilities

Publications

P. Vorakitolan, C. Y. Kataria, W. F. Moulder, and W. J. Blackwell, "Phase-Only Optimization of Beam Efficiency for a Large Scanning Reflectarray," in *Proceedings of the 2024 IEEE/URSI International Symposium on Antennas and Propagation*, Florence, Italy, July 2024.

Conference Poster

P. Vorakitolan, D. Zheng and A.K.F. Rahman, "Modeling Pavement Quality Index with Pavement Condition Data," in *Oklahoma Transportation Research Day*, Oklahoma City, USA, Oct. 2021. **2nd Place Poster Award.**

Involvement

Marketing Director: Hacklahoma

Apr '23 – Present

Led a team of 5 artists to create merch and graphics to promote the largest hackathon in Oklahoma. Grew social media account by 25% over one year.

Graphic Designer: Society of Asian Scientists and Engineers

May '24 – Present

Deployed the Adobe Creative Suite to design graphics and a brand identity, executing a cohesive social media strategy to drive engagement.

Event Supervisor: Science Olympiad

Sept '22 – Present

Developed and administered tests covering antenna theory & electronic circuits for high school science tournaments in Oklahoma.