

Pundit Vorakitolan

pundit@ou.edu | Norman, OK | (405) 404-8369

Education

B.S. Electrical Engineering, Minor in Math

University of Oklahoma – EMF, Linear Algebra, Signals & Systems, Microprocessors, Probability & Statistics

Expected May 2026

GPA: 3.6/4.0

Experience

MIT Lincoln Laboratory

SATCOM Research Intern – Dr. Michael Craton, SATCOM Systems and Operations Group

May '24 – Aug '24

Boston, MA

- Built a satellite-tracking antenna terminal targeting the GPS and Iridium constellations
- Designed and simulated a helical wire antenna feed for a parabolic dish antenna using HFSS simulation software
- Demonstrated an RF front end design, calculating link budget and using ADS to design PCBs for impedance matching networks
- Wrote software to control and operate an antenna positioner to track satellites based on TLEs

OU Nanophotonics Laboratory

Research Assistant – Dr. Binbin Weng

Sept '24 – Present

Norman, OK

- Studying advanced optical structures to miniaturize non-dispersive infrared sensors for gas emissions

Advanced Radar Research Center

Research Assistant – Dr. Jessica Ruyle

Nov '22 – Present

Norman, OK

- Measured and characterized electrically small non-LTI antennas using common RF lab equipment in an anechoic chamber
- Constructed and tested baluns to investigate overcoming physical gain/bandwidth limits using non-LTI systems

MIT Lincoln Laboratory

Technical Assistant – Drs. Cara Kataria & Will Moulder, RF Technology Group

Sept '23 – Feb '24

Boston, MA

- Developed an optimization algorithm to synthesize configuration for a 19,000 element reflectarray satellite antenna by controlling individual phase states
- Improved beam efficiency of the antenna from 89% to 93% with an extremely quick algorithm

Electromagnetics Research Intern, RF Technology Group

May '23 – Aug '23

- Built local-search algorithms into EM simulations to efficiently minimize side lobe radiation for very large antenna arrays.
- Brought runtime down to the order of minutes for a problem that was otherwise intractable with conventional algorithms

Boeing

Electromagnetic Effects Intern

June '22 – Jan '23

Oklahoma City, OK

- Automated post-processing and analysis of S-parameter data from antenna coupling simulations by coding MATLAB scripts, allowing for the computation of larger datasets and reducing creation time for RF cosite reports
- Authored EMC/EMI test procedures to verify military aircraft system upgrade performance
- Performed electromagnetic compatibility testing (MIL-STD-461) using VNAs, spectrum analyzers, and oscilloscopes

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 and executed 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 multiple high school science tournaments in Oklahoma.