

Nirmal Karthik

Collegeville, PA 19426 | nirmal.karthik@outlook.com | 484-929-7290 | <https://www.linkedin.com/in/nirmal-karthik/> | U.S. Citizen

Objective

Soon-to-be Computer Engineering graduate with strong communication skills and proven academic record, experienced with PCB design and analysis tools such as Altium and Ansys, and modeling tools such as MATLAB and C. Pursuing a graduate degree in Fall 2024; Seeking a computer engineering internship for Summer 2024.

Education

Bachelor of Science in Computer Engineering, GPA: 4.00

Georgia Institute of Technology | Atlanta, GA

- Specializing in Cybersecurity and Distributed System & Software Design

August 2022 to May 2024

Faculty Honors / Dean's List

High School Diploma, GPA: 5.01

Perkiomen Valley High School | Collegeville, PA

- Eagle Scout, National Merit Scholar, Student Leader/Representative

- 80 Dual Enrollment / AP Credits

August 2018 to May 2022

Valedictorian (500 students)

Skills

Object Oriented Programming, Web Development, & Assembly: MATLAB, Java, Python, C++, JavaScript, HTML, CSS, WordPress, RISC-V

PCB Design & Analysis: VNA, Oscilloscope, Power Supplies, Ansys, Mentor Graphics, Altium, Easy EDA, NI LabView, Quartus

Hardware: FPGAs, mbed, BeagleBone, Teensy, Arduino

Communication: Design proposals, technical reports, instruction manuals, presentations (large and small audiences)

Activities

SAME Georgia Tech Branch | Outreach Chair

- Help plan biweekly events and social outings for members of SAME with other 3 members of leadership team
- Reach out to external organizations to organize joint events and sponsorships

December 2023 – May 2024

ChemE Car

- Help develop the stopping mechanism; this utilizes an Iodine clock reaction and a sensor with a small microcontroller

August 2023 – May 2024

IEEE Georgia Tech Branch | Hackathon Chair

- Developed weekly events in collaboration with other members of leadership team
- Collaborated with team of three people to plan and organize Hackathon for this year

June 2023 – May 2024

Yellow Jacket Space Program | Flight Computer Responsible Engineer

- Design onboard computer system with functionality to communicate with ground station and connect with inputs such as sensors and cameras
- Train new Avionics members and delegate related projects

August 2022 – May 2024

Experience

Georgia Institute of Technology | Atlanta, Georgia

Research Assistant

- Undergraduate researcher in Dr. Brooks Lindsey's Ultrasonic Imaging and Instrumentation Lab
- Develop a reconfigurable IVUS Ultrasound Pulser-Receiver System implemented with an FPGA Board and using a MATLAB based GUI

January 2023 – May 2024

Georgia Institute of Technology | Atlanta, Georgia

Teaching Assistant

- Tutor students in introductory concepts for digital design during specified office hours
- Help grade assignments and exams, provide assistance during labs

January 2023 – May 2024

Georgia Institute of Technology | Atlanta, Georgia

Resident Assistant

- Plan biweekly events to facilitate Community Development
- On Duty over a 12-to-48-hour period on specific nights, this involves being on call for any resident emergencies

August 2023 – May 2024

John Deere | Fargo, North Dakota

Product Engineering Intern / Intelligent Solutions Group

- Designed and ran replicable test on transmission lines and onboard computer with tools such as VNA and Spectrum Analyzer
- Developed MATLAB Program to analyze results of hardware tests and generate test summaries for reporting
- Collaborated to Design and Test Firmware and Hardware for Cyber Tractor Badge, used by dozens of students in Cyber Tractor Challenge
- Created User Guide and gave Live and Recorded Presentation detailing how to perform PDN Analysis, Signal Integrity Analysis, and DDR Compliance Testing via Ansys SiWave and Electronics Desktop, to be referenced by 100s of engineers daily
- Constructed MATLAB Programs to lookup Standards based on frequency and class, to be used by telecommunications engineers

May 2023 – August 2023

Perkiomen Valley School District | Collegeville, PA

Technology Intern

- Created user-friendly school district website and migrated to in-house hosting, resulting in perpetual expense-reductions
- Refurbished, Repaired, and Provisioned 600+ computers for school district, generating \$50K in cost-savings
- Provided technology support for school district faculty and students

June 2020 – August 2021