Karthik Praturu

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kpraturu.github.io | US Citizen

Education

Georgia Institute of Technology | Atlanta, GA *August 2015 – Present*
Bachelor of Science in Electrical Engineering, GPA 3.97 Expected Graduation, December 2019

Georgia Institute of Technology | Atlanta, GA *January 2016 – Present*
Bachelor of Science in Computer Science, GPA 4.00 Expected Graduation, December 2019

Skills/Interests

Programming: C++, C, Java, Python, Matlab, HTML, CSS, Javascript, LabVIEW
Platforms: Linux (Debian-based, Arch-based), Unix, Windows
AI: Machine Learning, Planning and Pathfinding, Procedural Content Generation, Computer Vision
Architecture: Embedded Systems (Arduino, MBed, PSoC), Processor and FPGA Design (Verilog)
Electronics: Circuit Design (Eagle, Altium), Schematic Design (EPLAN), Circuit Simulation (PSpice), Soldering, Oscilloscope, Function Generator, Logic Analyzer
Communication: Design proposals, technical reports, instruction manuals, presentations

Experience

SpaceX | Hawthorne, CA *May 2018 – August 2018*
Vehicle Engineering Intern

- Designed electronics for a test cart that handles automated testing of flight components, allowing for quicker testing and deployment of flight hardware
- Created a software interface and LabVIEW GUI for manual control and logging of test cart data
- Designed a mixed-signal PCB for interfacing between the test cart and units-under-test, expanding the cart's capabilities and streamlining connectivity

Georgia Tech Research Institute (GTRI) | Atlanta, GA *May 2016 – May 2018*
Student Assistant | Electro-Optical Systems Innovation Division
Subgroup of GTRI dedicated to advancing real-time LiDAR applications

- Debugged and assembled a hardware PCB hub, resulting in efficient communications and control of a LiDAR system for terrain mapping
- Designed general circuits for laser-fault protection, ensuring user safety by only allowing the laser to fire when desired
- Built an asynchronous port reader/writer using C++, resulting in the ability for high speed serial communication between an operating computer and connected receivers and devices for a bathymetric LiDAR system

Projects

Yellow Jacket Space Program | Atlanta, GA *May 2017 – August 2018*
Avionics Hardware Lead
Developing a reusable rocket capable of testing scientific payloads in space

- Led team to design a control board for a sub-sonic, roll-controlled solid rocket
- Developed an engine controller board for communications with and control of a liquid-fueled engine

Georgia Tech AI Battle Arena Competition | Atlanta, GA *July 2017*
Tied for 1st Place
Real-time strategy battle arena game played by AI controlled heroes and minions competing against enemy AI

- Used Python to create navigational meshes for efficient map representation and A* with path smoothing for navigation, resulting in quick, dynamic responses from AI agents during gameplay
- Designed AI agents using state machines and behavior trees, allowing for flexibility in development and creation of complex tasks from simple tasks

HACKFSU | Tallahassee, Florida *February 2016*
Team-based, 36-hour Hackathon at Florida State University

- Led team to create a virtual reality device for CAD manipulation using C# and Unity within 15 hours, allowing us for more time to test and debug its usage on multiple different platforms