Karthik Praturu

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Objective

Electrical Engineering and Computer Science double major with experience with LiDAR systems and integrating large hardware and software structures seeking an internship for Summer 2019. Strengths focus around experience debugging and building electronic circuit boards, programming AI systems for path navigation and video games, and high-speed communications and data fusion.

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
Architecture: Embedded Systems (Arduino, MBed, PSoC), Processor and FPGA Design (Verilog)
Electronics: Circuit Design (Eagle), Circuit Simulation (PSpice), Soldering, Oscilloscope, Logic Analyzer
Communication: Design proposals, technical reports, instruction manuals, presentations
Interests: Video Game Design

Experience

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

- Debugged and assembled a hardware 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 – Present*
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

- Motivated and 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