Sujith Naapa Ramesh

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EDUCATION

Cornell University, College of Engineering, Ithaca, NY **Expected Dec. 2020**
Bachelor of Science, Electrical Computer Engineering and Computer Science
GPA: 3.681
Awards: Dean's List (Fall 2017, Spring 2018, Fall 2018, Spring 2019), Cornell Tradition Fellow

Littleton High School, Littleton, MA **June 2017**
GPA: 4.91, Salutatorian
Awards: National Merit Scholarship Semifinalist, Rensselaer Medal

Relevant Courses: Digital Signal and Image Processing, Embedded Operating Systems, Introduction to Computer Networks, Designing with Microcontrollers, Computer Architecture, Operating Systems, Intro to Microelectronics, Embedded Systems, Honors Objected-Oriented Programming and Data Structures, UNIX Tools and Scripting, Probability and Inference

RELEVANT EXPERIENCE

Cornell Cup Robotics Team, Cornell University, Ithaca, NY, *Electronics Subteam Member* **Sep. 2019-Present**
- Worked alongside a team of electrical engineers, mechanical engineers, and programmers to design a lab assistant robot
- Redesigned locomotion system to increase robot speed by four times while maintaining the same level of positional accuracy
- Implemented a serial communication system to interface various robot systems with onboard NVIDIA Jetson Nano

Gerber Technology, Tolland, CT, *Software Controls Intern* **June-Aug. 2019**
- Coordinated with a team of electrical and firmware engineers to design software controls for CNC machines
- Implemented an EtherCAT network between a Beckhoff PLC and existing hardware on the head of a CNC cutter
- Prototyped a new electronics system for a CNC spreader that relies on an EtherCAT network to control the machine
  - Rewired the old electronics box to incorporate a Beckhoff PLC that serves as the master for the EtherCAT network

Baja SAE Racing Team, Cornell University, Ithaca, NY, *Electronics Subteam Member* **Sep. 2017-May 2019**
- Collaborate with a team of six peers to integrate different testing equipment for competitive off-road racing vehicle
- Designed Spark Plug Sensor using an Asymmetrical Inverting Schmitt Trigger and software debouncing to collect engine RPM data
- Created an SD card logger that uses an STM32 microcontroller to log data to a Micro SD Card over SPI bus
  - Used Altium Designer to create the PCB design and wrote and debugged the firmware using an STM32 Discovery Board

Digital Logic and Computer Organization Class, Cornell University, Ithaca, NY, *Teaching Assistant* **Aug.-Dec. 2018**
- Moderated lab and assisted with Verilog design projects on Altera FPGA boards for a class of 40 students
- Held office hours once a week and graded student assignments

PlumChoice Inc., Lowell, MA, *Software Engineering Intern* **June-Aug. 2017, Jan. 2018, and June-Aug. 2018**
- Created pagination using jQuery DataTables and rewrote SQL queries for AT&T's BOOST sales platform
- Wrote bash and WebLogic Jython scripts on a Linux platform to create an automated deployment system

Pinball Machine, ECE 4760 Final Project **Nov.-Dec. 2019**
- Built a mechanical tabletop pinball machine that relied on obstacles, LEDs, and sound to provide interactive gameplay
- Interfaced a PIC32 microcontroller and a variety of sensors to manage gameplay and run lighting and sound routines

Cornell Make-A-Thon Finalist, Twitch Does Art **Feb. 2018**
- Created a server that polled user input through HTTP requests and interfaced with an ESP8266 WiFi Module
- Designed a robot that was controlled by the ESP8266 and received commands from the server

SPECIALIZED SKILLS

Digital Design: FPGA, PLC, ARM ISA, MIPS ISA, STM32, PIC32, Arduino, Hardware Architecture/Organization
Technologies: Altium Designer, TwinCAT 3, Git, Subversion, STM32CubeMX, SolidWorks
Software/OS: C, Structured Text, Python, SystemVerilog, Java, Bash, MATLAB, SQL, XML, Linux, Windows
Equipment: Oscilloscope, Logic Analyzer, Soldering, 3D Printing, Laser Cutting