Nathan R. Patrizi

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Summary

Responsible, hardworking individual looking to work in an environment where I can make an impact.

Education

University of New Mexico

Bachelor's Degree in Computer Engineering (GPA 3.38) Completion date: May 2019
Senior Design Project:
Human-Centric Scheduling in Smart City Environments

Curriculum

- **Computer Logic Design**: Studied logic gates and created code in VHDL for specific logic.
- **Software Design**: Studied and practiced effective coding strategies in C and Ruby.
- **Introduction to Computer Networks**: Studied the IP stack and their associated protocols. Specifically HTTP, SMTP, TCP, UDP along with routing concepts and flow control.
- **Introduction to Communication Systems**: Studied commonly utilized communication tools such as a variety of analog and digital modulation techniques, multiplexing, pulse shaping, etc.
- **Microprocessors**: Implemented projects using Assembly and C in order to utilize different aspects of the microprocessor. In particular, interfacing with a number of peripherals.

Technical Skills

Programming Languages: C, C++, Python, Ruby, Java, VHDL, NI LabVIEW, MATLAB, Assembly
Operating Systems: macOS, Linux, Windows
Software: Wireshark, CLion, Microsoft Office

Technical Experience

- Teamed with others to accomplish complex projects. Examples include: programming 4 function calculator in LabVIEW, Arduino maze solving robot, design of audio amplifier.
- Worked in a team to develop a reinforcement learning algorithm in MATLAB to model human decision making in smart city environments. Used Minority Game Theory and Stochastic Learning Automata concepts to model optimal decision making and scheduling in smart city environments. Results of this work were accepted to an IEEE Conference, SmartSys 2019.

Work Experience

University of New Mexico, Albuquerque, NM (September 2018 – May 2019)

Lab Assistant

- Research Internet of Things concepts and devices along with their applications. Studied BLE beacons and Passive RFID for location tracking applications.
- Coordinated with investors to make purchases of equipment that helped improve the lab. Responsible for installing and maintaining the equipment in the lab.
- Presented research and work being done in the lab to visitors to the University at open houses and visits with potential research partners.

Sandia National Laboratories, Albuquerque, NM (March 2019 – Current)

Year Round Intern (current)

- Developed a program to sense surrounding environment such as pressure, temperature and humidity, through the use of an Arduino/Raspberry Pi. Graphically showed the changes in the environment through real time plotting.