

Alan Zhang

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Education

Purdue University – West Lafayette, Indiana

Expected Graduation – May 2024

Bachelor of Science in Computer Engineering

GPA 3.32/4.00

Professional Experience

NanoHUB | West Lafayette, Indiana

August 2021 – Present

Software Engineering Intern – Simulation Development Team

- Optimized 3D nanowire transport simulation to reduce runtime by 40% with Python3 from Python2
- Implemented SimTool and YAML to cache data to NanoHUB with input/output verification
- Published verified Metal Oxide Semiconductor simulation to be used in graduate level courses
- Documented SimTool specific functions, involved sub libraries, features, and integration methods

Teknor Apex | Pawtucket, Rhode Island

June 2020 – August 2020

Software Engineering Intern – Supply Chain Team

- Created UI components in React.js to digitalize the Teknor Apex inventory management/supply chain
- Utilized PowerBI and Spotfire to graph market trends and gain a holistic view of the supply chain
- Visualized vendor information issues within automated processes affecting the supply chain

Project Experience

Stock Market Web Application

- Built a responsive web app using Python that allowed users to track and list data for various tickers
- Utilized the Yahoo Finance “yfinance” API to access and interpret market data
- Implemented React.js framework to dynamically display user inputted tickers in real time
- Included various CSS and Javascript elements to make the application graphically pleasing

Spotify Music Recommendation System

- Leveraged Spotify dataset to create a recommended list of songs utilizing Python libraries and TensorFlow
- Normalized 14 features of the imported dataset using functionality provided by the Scikit-learn library
- Implemented the K means clustering algorithm to partition distinct subgroups for songs input by the user
- Visualized the recommended songs through Jupyter Notebook and graphing libraries

Purdue Solar Racing | Programming and Telemetry Subsystem Member

- Developed lighting systems and maximum power point tracker for full sized solar powered vehicle
- Integrated buck converters and specialty LED to increase power efficiency by over 50% from past builds
- Developed schematics on KiCAD then converted to PCBs to be manufactured and coded
- Programmed STM32 ARM Cortex with CAN bus communication protocol in C

Knowledge / Skills

- Programming Languages: Java, Python, JavaScript, C, C++, MATLAB
- Operating Systems: Linux, Unix, Windows, Macintosh
- Technical Tools: React.js, Vue, bash, Git, Keras(TensorFlow), SQL
- RTL design simulation: UVM verification in System Verilog using Intel Quartus and EDA
- Communication Protocols: SPI/UART/I2C and CAN