Tianshu Huang

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EDUCATION

University of Texas Austin, TX
Electrical and Computer Engineering (Honors); GPA: 4.0 *August 2017 - Present*

- Relevant Courses:

Introduction to Embedded Systems	Real Analysis I, II
First Year Design (in EE)	Differential Equations with Linear Algebra

- In progress:

Geometric Foundations of Data Science (Graduate)	Theory of Probability (Graduate)
Probability and Random Processes	Circuit Theory
Software Design and Implementation I	

Texas A&M University College Station, TX
Concurrent enrollment while in high school; GPA: 4.0 *January 2016 - May 2017*

- Courses: Discrete Mathematics, Linear Algebra, Advanced Calculus I

WORK EXPERIENCE

Test Analysis Systems Consultant Fremont, CA
SLD Laser (Formerly Soraa Laser Diode) *August 2018 - Present*

- Maintain and add new features to data analysis web app created previously
- Work on proof-of-concept proposal for a new task scheduling system for both computing and fab resources using Celery and RabbitMQ
- Plan to integrate testing with test data to allow engineers to request test data, receive notifications on completion, and view requested results without leaving the web app

Full Stack Developer Intern Fremont, CA
SLD Laser (Formerly Soraa Laser Diode) *June 2018 - August 2018*

- Created complete web app from scratch using Django and D3.js to create interactive visualizations of laser test data consisting of over 23,000 lines of code
- Integrated tests from multiple stages of production to allow engineers to compare data vertically (along a single device's life cycle) and/or horizontally (between different devices), giving engineers new insights into defects encountered during the manufacturing process
- Wrote interface using the Django ORM to map legacy databases with greatly varying design and layout without existing documentation of database structure
- Designed backend authentication and token-based API authentication
- Support 30 users totalling 60,000 requests per month

PROJECTS

Embedded Systems (EE319K) Final Project - Rock Band | Serial Token Ring Austin, TX
https://github.com/thetianshuhuang/rock-band *May 2018*

- Implemented Rock Band game with 44.1kHz audio played from an SD card, N-player multiplayer, and interactively programmable levels on the TM4C; voted 2nd place
- Designed and fabricated a controller board for turning Piezo disk sensor voltage into digital inputs
- Interfaced display, accelerometer, and SD card through SPI; learned to debug SPI using a logic analyzer
- Designed serial-based token ring networking protocol and wrote library implementation to share with another group to allow multiplayer on a common networking standard

Serial Visual Debug Library Austin, TX
https://github.com/thetianshuhuang/serial-vis *November 2017 - March 2018*

- Learned industry standard coding style and documentation practices
- Visual serial interface for debugging complex embedded systems, especially those using large sensor arrays and spatial decision making with an open Python PC interface and C++ and C embedded system libraries
- Python module, Arduino (C++) Library, and TM4C (C) Library

SKILLS

- **Languages**: Python, Javascript, C, ARM Assembly, C++, Java, SQL, HTML, CSS, LaTeX

- **Libraries and Frameworks**: OpenCV, Django, Celery, D3.js, Node.js

- **Platforms**: Apache, Arduino, RabbitMQ, Git (Github, Self-hosted Gitlab), Subversion, Ubuntu / Ubuntu Server, FreeBSD, Virtualbox, ESXi, MySQL / MariaDB / Sqlite, FreeRadius

- **Hardware**: Board design (EagleCAD), fabrication (OtherMill), and assembly; CAD (Solidworks, Sketchup); 3D Printing