Kai Huang

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EXPERIENCE

Continental AG San Jose, CA

Software Engineer (UCSC Design Project) *November 2018 – present*

- Improve architecture of existing implementation of intelligent intersection technology for smart cities
- Research and develop machine learning algorithms to efficiently evaluate data collected at intersections for pedestrian, vehicle, and critical scenario detection

Massive Charging Network Santa Cruz, CA

Software Application Developer *September 2018 – December 2018*

- Implement mobile application functionalities to communicate with server and hardware component
- Design and maintain backend infrastructure to organize hardware usage history, residential & small-business energy usage, etc.

Jack Baskin School Of Engineering, Zhang Lab Santa Cruz, CA

Undergraduate Research Assistant *June 2018 – present*

- Explore topics including: smart power grids, power grid optimization, the real world applications of machine learning on power systems, reinforcement learning, and applied data science
- Utilize recurrent neural network to analyze data in forecasting Renewable Energy

Jack Baskin School Of Engineering, University of California Santa Cruz, CA

Lab Teaching Assistant *January 2018 – present*

- Collaborate closely with professor to facilitate lab discussion, tutoring sessions and office hours
- Main topics: fundamentals of computer systems, sequential circuits, finite-state machine design, serial & parallel communication, microprocessor & microcontroller architecture, embedded programming, and analog & digital systems.

SOFTWARE APPLICATION PROJECTS

Q.vinyl

- Real-time streaming application that enables users to build communal music playlists within chat rooms where music playback syncs with all connected devices
- Constructed backend infrastructure using Firebase to create a robust database design for text messaging, user information, room data, etc.
- Single-page application using React.js and Node.js, which supports dynamic loading of chat rooms, playlists, and user information

EMBEDDED SOFTWARE PROJECTS

Dual-Channel Oscilloscope

- Sampling analog signal (or simulate using DAC), ADC converts the signal and transfers data using DMA and USBFS from PSoC microcontroller to Raspberry Pi
- Developed Raspberry Pi program to read digital output from data transfer, alter input waveform according to user parameters, and visualize waveform

Logic Analyzer

- Evaluates a n-variable boolean expression input, triggers at positive or negative bit and displays output in the form of timing and data diagram waveforms

ACADEMICS

University of California, Santa Cruz Santa Cruz, CA

Bachelor of Science: Computer Engineering (Systems & Networks)

Bachelor of Arts: Computer Science *September 2015 – June 2019 (expected)*

- University GPA: 3.94/4.0

Honors

- Tau Beta Pi, Engineering Honors Society

Relevant Coursework

- Abstract Data Structures
- Algorithm Analysis and Design
- Operating Systems
- Object-Oriented Programming
- Networks & Web Applications
- System Logic Design
- Microprocessor Design
- Circuits, Signals and Systems
- Computer Architecture

TECHNICAL SKILLS

- C, C++, Java, Python, HTML/CSS, React.js, Node.js, Firebase, Git, UNIX, Verilog, MATLAB, Octave