Kevin Sheng

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Education

The Cooper Union: New York, New York, *B.E. Electrical Engineering*   **GPA:** 3.53   (Major 3.77)   Expected May 2018

Honors: Cooper Union Innovator's Scholarship (2014-2018); Cooper Union Half-Tuition Scholarship (2014-2018);
 National Merit Scholarship Winner (2014)

Relevant Coursework: Operating Systems, Databases, Data Structures and Algorithms II, Electronics II   In Progress
 Communication Theory, Digital Signal Processing.
 Advanced Computer Architecture, Signal Processing and Systems Analysis,   Completed
 Data Structures and Algorithms I, Electronics I, Computer Security, Discrete Math.

Experience

Distributed Intelligent Agents Lab, *Student Researcher,* Cooper Union, New York, NY   Present
 o   Currently designing an adaptive traffic control algorithm that leverages distributed metareasoning with traditional multi agent reinforcement learning methods in order to reduce vehicle and pedestrian congestion in urban grids.

Kulite Semiconductor, *Intern,* Leonia, NJ   Summer 2016
 o   Designed and assembled a fully automated test stand for characterizing MEMS pressure transducers.
 o   Developed a MATLAB program which controls several different instruments, automatically adjusting environmental properties and measurement parameters, and maximizing testing throughput via a multiplexed measurement system.
 o   Improved conventional testing procedures by increasing the quantity and variety of data collected, creating an accessible data access and visualization system, while reducing the manpower required.
 o   Applied the system, observing and characterizing unexpected non-linear effects due to manufacturing processes.

NEXTEV, *Intern,* Shanghai, China   Winter 2015
 o   Modeled engineering design processes with systems engineering team for a new electric vehicle startup.
 o   Charted change management and communication systems with roadmaps for product lifecycle management maturity.
 o   Formulated document flows for electrical engineering schematics.

Center for Spoken Language Understanding, *Research Intern,* Oregon Health & Science University, Portland, OR   Summer 2015
 o   Worked with the CS/EE department to develop a system for early cerebral palsy detection in infants by combining traditional accelerometer based approaches with computer vision and machine learning algorithms.
 o   Designed and assembled a multimodal synchronization system to synchronize various different data sources.
 o   Implemented a Goertzel algorithm in R to quickly and accurately find, using cross-correlation, the time offset between audio and electrical signals emitted from a portable circuit, exhibited within different datasets.

Projects

Electronic Throttle Control, *Cooper Motorsports*   September 2016 – Present
 o   Responsible for designing, manufacturing, and evaluating a drive-by-wire system for the Formula racecar.
 o   Designed an electronic throttle control system that uses pedal position, gear position and other measured parameters in order to automate throttle control and improve the ease and performance of gear shifts for less experienced drivers.
 o   Modeled and tuned a closed loop PID control system for throttle position control and implemented it using a STM32F, an ARM Cortex A4 based microcontroller, complying with various failure mode and safety standards.

Data Acquisition, *Cooper Motorsports*   September 2015 – May 2016
 o   Designed and implemented a system to measure, store and view data for the Formula racecar.
 o   Created rugged sensor systems, designing and manufacturing ECU and DAQ module interfacing circuits.

Dashboard, *Cooper Motorsports*   September 2014 – May 2015
 o   Manufactured a dashboard for the Formula racecar, designing a PCB in Eagle and an enclosure and panel in SolidWorks.
 o   Programmed an Arduino to calculate and display gear position and shift indications.

D(L)D Revolution, *ECE150 Digital Logic Design*   December 2014
 o   Designed, documented, and built a fully functional DDR-esque rhythm game on breadboards using logic gates, flip-flops, memory, timers, counters, and other fundamental ICs, encoding songs on an 8kb EEPROM.

Skills

Languages: *Proficient*: C++, C, Matlab
  Familiar: Python, SQL, R, Javascript, MIPS Assembly, HTML/CSS, JQuery, Bootstrap, Shell Scripting
Software: *nix Environments, Arduino, EAGLE, AutoCAD, SolidWorks, git, LTSpice