

Dohun Jeong

Currently looking for Summer-Fall 2022 thesis opportunities in computer vision hardware/software

Experience

Display Engineering Intern

March 2021-August 2021

Tesla

- Designed display system boards for upcoming mass production vehicles in the middle of an industry-wide semiconductor supply shortage.
- Led the transition of display test hardware and firmware to a new SoC (FX3) that allowed for greater diagnostic capabilities.
- Led the root cause investigation and risk assessment of several failure modes seen in the field by working with Tesla's reliability, test, thermal, and failure analysis engineers.
- Worked with suppliers and global supply managers on validating vendor design changes, PCB DFM, qualifying a new part supplier, find alternate parts to sustain volume production without interruptions.
- Tools: Altium Designer, Cypress FX3 SDK, Jira, Confluence, Sourcetree (Git)

Graduate Teaching Assistant

August 2021-

University of Illinois at Urbana-Champaign

- Lead a lab section of ~20 students in ECE 385 Digital Systems Laboratory, where students build simple computer, AES accelerator, etc.
- Grade weekly project reports, administer oral exams, and help students complete their projects.
- Tools: SystemVerilog, Altera

Undergraduate Instructor, ECE 210 Honors

September 2019 – May 2020

University of Illinois at Urbana-Champaign

- Redesigned exercises to include better visualization of Fourier Series, Fourier Transform, and bridge the gap between Analog and Digital Signal Processing using inner products.
- Tools: Jupyter Notebook, Numpy, Scipy

Bachelor Thesis Student

September 2019 – May 2020

Coordinated Science Laboratory

- Explored rendering equation optimization and machine learning based methods to estimate scene parameters such as depth and surface reflectance based on a single image.
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Bachelor Semester Project Student

February 2019 – June 2019

École polytechnique fédérale de Lausanne

- Developed real-time code for controlling mirrors of a Michelson interferometer with 6 piezo actuators to create and sample interference patterns to recover spectral information.
- Devised an algorithm to determine the mirror displacement *a posteriori*.
- Tools: STM32Cube, C, Python

Electronics Design Engineer

September 2018 – July 2019

EPFL Hyperloop

- Designed, built, and tested, and debugged the electronics that integrated all other subsystems (propulsion, mechanical stabilization, braking, powertrain, battery)
- Led component selection (investigating various sensing technologies), built harnesses, tested subsystems in-house, and worked with SpaceX engineers to become the first pod to be certified for the final run, where the pod reached 238km/h and became the first linear motor vehicle to run in the Hyperloop tube.

Undergraduate Research Assistant

June 2018 – August 2019

Biosensors Lab, University of Illinois at Urbana-Champaign

- Designed a PCB and wrote Verilog code for a polarization sensitive low-noise image sensor to be used for medical imaging applications. Image sensor was controlled by SPI and its LVDS outputs were received by FIFO and transferred via USB3.0.
- Updated existing Verilog code and PCB design to reflect new timing restrictions on upgraded FPGAs.
- Tools: Xilinx Vivado

Activities**Corporate Director**

May 2017 – April 2018

Pulse 2018

- Raised 44,000 USD in sponsorship for the annual student technology conference attended by 700+ students, mostly in towards Illinois ECE and CS departments.
- Led a team of 4 dedicated members by assembling a corporate package, which the team used to secured sponsorships, plan corporate events for company representatives so that they would intrigue the conference attendees.

Treasurer and Electronics Design Engineer

August 2016 – August 2017

Illini Hyperloop

- As treasurer, I managed the logistics of sending valuable, fragile, and hazardous freight on a transcontinental journey. I also secured sponsors, and managed material acquisition and travel expenses.
- As electrical design engineer and electrical lead, I led the design of the motherboard PCB, which connected sensors and actuators to the flight computer. I also designed the testing rig to characterize Halbach array.

Founder and Director

March 2016 – June 2016

TEDxEgmontSchool

- Organized a TEDx conference in my high school, leading a team of 10 people in AV production and editing, stage/lighting design, and speaker curation.
- Produced and edited videos that have nearly 3 million total views on YouTube so far.

Education

M.S., Electrical and Computer Engineering (GPA:3.83/4.0)

2020-2022 (Expected)

University of Illinois at Urbana-Champaign

B.S., Electrical Engineering with Highest Honors

2016-2020

University of Illinois at Urbana-Champaign

Exchange, École polytechnique fédérale de Lausanne

2018-2019