# Brian Ko

[U.S. Permanent Resident]

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## Education

**Purdue University** West Lafayette, IN

*Bachelor of Science in Electrical Engineering* *Aug. 2019 - May 2022*

*GPA:* 3.97/4.00

*Relevant Courses:* ***Advanced C, Python for Data Science, Introduction to Digital design***

**Austin Community College** Austin, TX

*Undergraduate student* *Aug. 2017 - May 2019*

*GPA:* 3.95/4.00

## Experience

**FPGA Research Team** Jan. 2020 - Present

*Team Lead* *West Lafayette, IN*

- Co-Founder of FPGA team, and focuses on synthesizing the chip design to emulate on the FPGA board using Quartus, hardware programming software.
- Developed curriculum for new members that covering fundamental functions of Quartus such as creating new project, utilizing IP catalog, and pin assignments.
- Debugging the source code errors while converting the design from other languages to System Verilog to compile on Quartus

**Electrical Engineering Fundamentals Lab** Aug. 2020 – Dec. 2020

*Teaching Assistant* *West Lafayette, IN*

- Offered Office hour to mentor students by going through concepts behind the experiments such as passive filters, sensor system, and transformers.

**Lian Consult** May. 2017 – Aug. 2017

*Data scientist* *Seoul, South Korea*

- Conducted market trends focuses on online vendor market such as amazon and eBay by using MATLAB and Microsoft Excel while collaborating with other consultant group to discover online market trend.
- Utilizing linear regression on MATLAB to predict the future demand of the products

## Projects

**Natural Catalyst Algorithm Development** | [MATLAB Code] Aug. 2020

- Developed a MATLAB algorithm that characterized enzyme kinetics using the Lineweaver-Burk Model plot to find the maximum velocity, Michaelis Menten constant, and initial velocity.
- Implemented a pricing strategy model using non-linear regression to find the general exponential model equation for pricing.

**Optical Heart Rate Sensor** | [Video Demo] May. 2020

- Implemented an optical heart rate sensor by utilizing photodiode to emit the light through finger and phototransistor to receive the pulse signal.
- Applied active filter systems to adjust the signal to normal human BPM range.
- Converted analog signal to digital binary signal and used it as the input of the led to indicate the heart rate with led blinking.

**FPGA Computer** | [Verilog Code] Jan 2020 – May 2020

- The encoder and decoder in FPGA Computer allows the user to enter instruction by pushing the number buttons on the FPGA board.
- It stores data using multiple registers, reads and performs assembly language instruction with utilizing IDMS, and performs the logical operation using ALU.

## Skills and Accomplishments

**Progamming Languages**: Python, Java, C/C++, MATLAB, JavaScript, System Verilog.
**Community**: EECS, HKN, IEEE, SoCET.
**Award**: Dean's List, Semester Honors.