Grant Mak

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An imaginative, driven, and diverse innovator with experience working on teams in coding, design, testing, and integration. A strong leader, clear communicator, and diligent worker seeking to provide extensive experience in design and advanced programming knowledge in MATLAB, Arduino, and C++.

EDUCATION

DUKE UNIVERSITY
BSE in Biomedical Engineering
BSE in Electrical and Computer Engineering
Exp. May 2020 | Durham, NC

ST. JOHN THE BAPTIST HIGH SCHOOL
June 2016 | West Islip, NY

RELEVANT COURSEWORK

Fundamentals of Biomedical Design
Medical Instrumentation
Bioelectricity
Quantitative Physiology with Biostatistic Applications
Modeling Cellular and Molecular Systems
Signals and Systems
Microelectronic Devices and Circuits
Computer Architecture
Data Structures & Algorithms
Fundamentals of Neuroscience
Fundamentals of Electrical and Computer Engineering
Computational Methods in Engineering

SKILLS

PROGRAMMING
MATLAB • Python • Java • C
Arduino • Assembly (MIPS)
C++

TECHNICAL
Fusion 360 • Command Line
Maple • Git • Eagle

WORK AND RESEARCH

DUKE UNIVERSITY | Undergraduate Research Assistant
September 2018 - January 2019 | Durham, NC

- Helped design a VR environment in C++ for mice to explore for the purpose of tracking the neural activity needed to encode three dimensional space.
- 3D printed a wheel for the mice to run on and a holster for a micro controller.

JOHNSON & JOHNSON VISION | Research & Development Intern
May 2018 - August 2018 | Jacksonville, FL

- Collected hyperspectral data, and analyzed that raw data in MATLAB to obtain information on wavelength spectra, chromatic content, and chromatic contrast.
- Designed and tested filters in MATLAB to maximize chromatic contrast.

DUKE UNIVERSITY | ECE 110 TA
January 2018 - May 2018; October 2018 - Present | Durham, NC

- Gave feedback on Arduino code written to integrate sensors on a Parallax BOE-Bot to collect data, follow a path, and send and receive signals to and from other BOE-Bots.
- Taught basic breadboard circuitry and instrumentation.

DESIGN PROJECTS

DUKE UNIVERSITY | BME Design Fellow
January 2019 - Present | Durham, NC

- Designed a light box that blinks at different frequencies using CAD and ECAD.
- Design a dual IMT and EMT respiratory device.

DUKE ENABLE | Team Member
September 2017 – March 2018 | Durham, NC

- Connect patients in the Durham area with self-designed, 3D printed prosthetics.
- Develop circuity and Arduino code for myoelectric sensors and motor control.

DUKE UNIVERSITY | BME 230
Jan 2018 - May 2018 | Durham, NC

- Designed and built a cost-efficient, battery-powered pen light to aid in the diagnosis of traumatic brain injury at the Kilimanjaro Christian Medical Center in Tanzania.

COMMUNITY

CHI PSI FRATERNITY | External Vice President
November 2018 - Present | Durham, NC

- Coordinate with other groups to plan social events and philanthropic events.
- Create and manage budgets.

DUKE UNIVERSITY MARCHING BAND | Officer/Section Leader
May 2017 – Present | Durham, NC

- Act as an advisor and mentor towards younger members.
- Ensure rehearsals run smoothly, and teach music and marching drill.