DAVID CHANG

(973) 713-0963 ● dcchang@umich.edu
Personal Website: https://dcchang.github.io/

EDUCATION

University of Michigan   **Ann Arbor, MI**
M.S.E. in Biomedical Engineering – Systems Biology & Biotechnology   *May 2020*
GPA: 4.0/4.0
Coursework: Biopharmaceutical Engineering, Hands-on Robotics, Artificial Intelligence in BME, Math of Biological Networks, Quality Engineering Analysis – Six Sigma Black Belt
Teaching experience: Graduate Student Instructor for Biology 226 – Human and Animal Physiology Lab

University of Michigan   **Ann Arbor, MI**
B.S.E. in Biomedical Engineering – Biochemical   *May 2019*
GPA: 3.6/4.0
Coursework: Biomedical Engineering Design (Capstone), Biomedical Instrumentation and Design, Circuits, Computer Programming (C++ and MATLAB), Fluid Mechanics, Quantitative Physiology, Quantitative Cell Biology
Fellowship: Entrepreneurs Leadership Program (2018)

EXPERIENCE

Systems Biology Lab   **Ann Arbor, MI**
Research Assistant   *January 2019 - Present*
- Improved random forest model called INDIGO (Inferring Drug Interactions using chemoGenomics and Orthology) in MATLAB to predict effects of drug combination therapies on antibiotic-resistant bacteria.
- Used orthology-based approach to expand model capabilities so that it can be trained on and make predictions for drug interaction datasets of various bacterial species in addition to *E. coli*.
- Validated that new model makes predictions with a significantly higher correlation coefficient and accuracy for different bacterial species.

BIOMEDE 451/452 – Biomedical Engineering Design   **Ann Arbor, MI**
Team Member – MetaCapture   *September 2018 – May 2019*
- Built a wearable flex sensor-based device that tracks finger movement for patients with a brachial plexus injury who have undergone a nerve reconstruction surgery.
- Developed Arduino software for data logging and a post processing GUI using Python that researchers can use to analyze a patient's duration of finger activity and range of motion.
- Tested device usability with patients and delivered product to neurosurgery clients at Michigan Medicine.

Genomenon   **Ann Arbor, MI**
Data Processing Intern   *May 2018 – September 2018*
- Developed a pipeline that extracts gene-variant associations from supplemental data files in research articles.
- Built a Python script that identifies and stores gene variants using regular expressions from various file types.
- Created a search engine functionality for scanning supplemental data files that is being used by genome sequencing companies and research labs to expand their gene-variant curation pipelines.

MedLaunch   **Ann Arbor, MI**
Co-Founder   *November 2017 – May 2020*
- Created a student organization where students design assistive technologies for disabled community partners.
- Recruited and retained over 50 members from different schools across the university.
- Directed five teams in the development of functional prototypes that were delivered to community partners.

SKILLS

Languages: Python, MATLAB, C++, HTML, CSS, JavaScript
Development Tools: Git/GitHub
OS: Windows, Linux (Ubuntu), Unix (Mac OS)

ACTIVITIES

COVID-19 Campus Challenge   *April 2020 – July 2020*
Bioastronautics and Life Support Systems Team   *September 2019 – April 2020*
Beta Mu Epsilon – Biomedical Engineering Fraternity   *January 2017 – April 2019*
Men's Rowing Team   *September 2015 – May 2016*