Kevin Fang

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SUMMARY

- Recent graduate with experience in R&D, medical devices, robotics, and wet lab procedures
- Possess expertise in prosthetics, algorithm development, and CAD with a strong interest in the medical device industry
- Research and developed physical platforms for prosthetics requiring programming, designing, and experimentation

EDUCATION

Johns Hopkins University 2022

- 3.8 GPA, *Biomedical Engineering (NeuroEngineering), M.S.E*
  - ❖ Courses: Neuro Data Design, Robotic Kinematics, Machine Learning for Signal Processing, Models of Neurons

University of California, Irvine

- 3.7 GPA, *Biomedical Engineering, B.S.* 2021

TECHNICAL SKILLS

- Solidworks (CAD) Proficiency: Awarded $1000 for the prototype design of a PAPR Mask and obtained the Certification of Solidworks Associate Level (CSWA)
- Algorithm Development: C++, Python, MATLAB, and Labview
- Other skills: Wet lab (PCR, Gibson assemblies, test digests), ISO 13485 and 10993, Benchling, and a V5/5.11d climber

RESEARCH EXPERIENCE

NeuroEngineering and Biomedical Instrumentation Lab September 2021 – June 2022
Graduate Researcher *Baltimore, Maryland*

- Programmed a prosthesis movement control algorithm for prosthetic hands and wrists that use 6 degrees of freedom.
- Constructed a wrist rotation platform by using 2 VIVE trackers, a Unity simulation with a C# script sending quaternion data of the VIVE trackers, and a custom UDP server.
- Performed root cause analysis on prosthetics and robotic devices such as 3D printers and robot arms (such as the UR5).
- Designed and conducted double-blinded, multi-session human experiments on 6 able-bodied subjects to determine the efficacy of next-generation control, named RESCU, algorithms.

Signal and Image Processing Lab September 2019 – June 2020
Undergraduate Researcher *Irvine, California*

- Constructed a simulation using Blender and its python-based game engine to analyze an infant's force impact on varying surfaces to recreate the aspects of Baby Shaken Syndrome.
- Programmed a partition algorithm for brain MRI images using C++ to allow for multi-computer image processing.

UCI Zhao Lab (Developing Next Generation Therapeutics and Diagnostics) September 2017 – June 2019
Undergraduate Researcher/Tutor *Irvine, California*

- Performed wetlab skills such as PCR, test sequencing, gel electrophoresis, tissue sampling, and Gibson assemblies for CRISPR-based research for a duration of 2 years utilizing synthesized DNA strands from over 500 different plasmids.
- Synthesized multiple DNA strands, 500-2000 bp length, using Benchling, a virtual plasmid design program.
- Investigated DNA methylation at CpG sites to examine the effects it has on Cas-9.
- Created an introduction program that which details basic wetlab skills and miscellaneous details such as the organization of plasmids and restriction enzymes, for future undergraduates and high school interns.

PROFESSIONAL EXPERIENCE

Bio-Rad Laboratories June 2019 – August 2019
R&D Intern *Irvine, California*

- Utilized 7 flow cytometric and signal processing instruments to do CBC (Complete Blood Count: RBCs, PLTs, etc.) on patient blood samples for the development of hematology calibrators and controls.
- Appraised data from the CBC experiments using Minitab and presented these results to the marketing and business department executives to highlight the efficacy of the calibrators developed by our team.
- Followed engineering methods (Six Sigma and V&V) when running experiments in the clean room.

Reach Surgical June 2015 – August 2015, June 2016 – August 2016
Research Intern *Tianjin, China*

- Assembled and cleaned the iReach Magnum Powered Stapler in the clean room to gain insight and provide input on a more efficient assembly process.
- Involved with the *in vivo*, testing on a live pig, and *in vitro*, wet lab research, testing of the iReach Stapler.

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