ALEX B. JIANG

ajiang22@seas.upenn.edu | 240-386-7169

EDUCATION

University of Pennsylvania, B.S.E in Mechanical Engineering, M.S. in Robotics August 2021 – Present
GPA: 4.0
Relevant Courses:

Product Design (IPD 515), Machine Design & Manufacturing (MEAM 201), Statics & Strength of Materials (MEAM 210), Engineering Ethics (EAS 203), Silicon Garage (ESE 190), Programming Languages & Techniques (CIS 120), Intro to Thermal-Fluids Engineering (MEAM 202), Linear Algebra & Differential Equations (MATH 240)

Extracurriculars:

- *Engineering Student Activities Council* (Social chair and event planner) - Oversee 30 student activity groups; plan events to strengthen the SEAS community; organize an annual formal for 600+ students; raised $1,000+ through jumble sales
- *Penn Aerial Robotics* (Hardware team) - Design mounts for a remote-controlled aircraft in SOLIDWORKS; 3D-print and laser cut parts to assist in the assembly of the aircraft
- *Pan Asian Dance Troupe* (Marketing director) - Design social media graphics to promote gigs and shows; manage the Pan Asian website; organize and plan team photoshoots

Montgomery Blair High School, STEM Magnet Program August 2017 - June 2021
GPA: 4.0 (UW), 4.79 (W)
Honors and Awards: International Public Policy Forum Runner-Up (2021), Princeton Debate Tournament Champion (2020), Harvard Round Robin Champion (2021), ExploraVision Honorable Mention (2020), National AP Scholar (2020),
Relevant Courses:

Mathematical Physics, Quantum Physics, Complex Analysis, Materials Science, Analysis of Algorithms, Optics, Discrete Math, Organic Chemistry

WORK & RESEARCH EXPERIENCES

Researcher Intern February 2022 – Present
GRASP lab (Kod*lab)

- Assist in the assembly and design of a novel robot with an actuated spine and a 3-DOF leg
- Designed a plate that holds a kill switch and prevents dust from contaminating the robot's electronics
- Designed a device used to ensure consistent angles for sheet metal bending

Research Intern May 2022 – July 2022
***National University of Singapore** - Prof. Guillaume Sartoretti*

- Wrote a python program to control the actuators of a physical 18-DOF hexapod robot
- Adapted the central pattern generator (CPG) parameters of a hexapod robot via a closed-loop feedback control system to ensure stable locomotion
- Wrote a reactive stabilization algorithm that permitted a hexapod robot to traverse uneven and angled terrains without prior knowledge of the terrains

Researcher Intern June 2020 – October 2020
Independent – Mr. Quinn Shen (UBER ATG Engineer)

- Developed and trained a neural network that predicts dense depth maps from input color images.
- Improved training accuracy by 10% by integrating feature encoder architectures (ResNet, DenseNet).
- Studied the effects of introducing alternative representations of the RGB color model into the network.

Founder and Instructor April 2020 – July 2021
AE Tutoring

- Maintained the company website, led marketing efforts, developed curriculum and course materials for classes.
- Taught two sessions of a two-week debate summer camp (2020) and two sessions of a fall debate course (2021).

TECHNICAL SKILLS & INTERESTS

Programming Languages: Python, Java, MATLAB, OCaml
Computer Software: SOLIDWORKS, Autodesk Inventor, Fusion 360, Onshape, STELLA
Skills: laser cutting, 3D printing, leadership, communication, task management
Interests: robotics, autonomous vehicles, product design, entrepreneurship, management