ALEX B. JIANG

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EDUCATION

University of Pennsylvania, B.S.E in Mechanical Engineering, M.S in Robotics (Planned) August 2021 – Present
GPA: 4.0/4.0
Relevant Courses: Product Design (IPD 515), Machine Design & Manufacturing (MEAM 201), Intro to Open-Source Hardware and Software (ESE 190), Statics & Strength of Materials (MEAM 210), Engineering Ethics (EAS 203), 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/event planner) - Oversee 30 student 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 motor 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) – Manage a marketing team of 8; design social media graphics to promote gigs and shows with 250+ attendees; manage the club website; take and edit photos for 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, Complex Analysis, Analysis of Algorithms, Optics, Discrete Math

WORK & RESEARCH EXPERIENCES

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

- Designed and built 2 novel devices that actuate compliant origami joints
- Contributed to the production and assembly of a novel quadruped with an actuated spine and 3-DOF legs
- Designed a plate that houses a circuit breaker and prevents dust from contaminating internal electronics
- Developed a jig used to ensure consistent angles in sheet metal bending; demonstrated its effectiveness by using it in the manufacturing of 4 critical robot components

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

- Programmed and executed a control algorithm for the motors of 18-DOF hexapod robot
- Simulated the stabilized locomotion of a hexapod robot via the PyBullet physics engine
- Constructed a reactive stabilization algorithm that permitted a hexapod robot to traverse angled terrains of up to 30 degrees 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 with 92% accuracy
- Improved testing accuracy by ~10% by designing a network with a dense convolutional feature map extractor
- Managed the team's training pipeline; cut setup times to <1 minute by designing a simple user interface with configurable model parameters
- Trained over 80 models on 30,000+ images using cloud computing services (Amazon AWS)

Founder and Instructor April 2020 – July 2021
AE Tutoring

- Led two sessions of a two-week summer debate camp and two sessions of a fall debate course
- Recruited 35+ students from around the U.S. and Canada; received an average rating of 4.8 stars and a "would recommend" rate of 100%

TECHNICAL SKILLS & INTERESTS

Programming & Cloud Technologies: Python, Java, MATLAB, OCaml, PyTorch, AWS EFS, AWS EC2
Computer Software: SOLIDWORKS, Autodesk Inventor, Fusion 360, Onshape, STELLA
Skills: product design, rapid prototyping, machining, laser cutting, 3D printing, team management, communication