Darion Lian

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EDUCATION

UNIVERSITY OF PENNSYLVANIA **Philadelphia, PA**
Vagelos Integrated Program in Energy Research (VIPER) **August 2025-Present**

- BSE in Mechanical Engineering and Applied Mechanics | BA in Chemistry
- Cumulative GPA: 3.95 / 4.00 | Expected Graduation: May 2029

PROFESSIONAL EXPERIENCE

SUNG ROBOTICS LAB **Philadelphia, PA**
Funded Undergraduate Researcher **September 2025-Present**

- Designed an underactuated, single-tube robotic steering and propulsion system based on the Liebau (impedance pump) mechanism to allow for omnidirectional motion
- Experimentally analyzed the effects of varying strain on elastic tubing and resulting flow behavior in closed-loop Liebau-driven systems

VERSA - PERSONAL ENGLISH TUTOR AI STARTUP (DYNAHIRE, INC.) **Remote/Global**
Business Operations & Growth Associate **September 2025-Present**

- First hire on the business operations team at an AI-powered language learning startup with 100,000+ global users. Promoting international expansion through market analysis, product feedback, and creator partnership development.
- Conducted market and database analysis to identify target demographics, leading outreach to content creators and influencers in markets including Thailand, Vietnam, and Mexico to establish advertising partnerships

LIU LABORATORY AT EMORY **Atlanta, GA**
Student Researcher **June 2024-December 2024**

- Developed a public tutorial website introducing machine learning for computational chemistry, designed for high school students and early learners
- Extended and refined an existing supervised machine learning classification pipeline using scikit-learn and RDKit (Morgan fingerprints) to classify polycyclic aromatic hydrocarbons (PAHs) as carcinogenic or non-carcinogenic

PROJECTS AND ACTIVITIES

Penn Aerial Robotics - Micro Class Co-Lead & Advanced Class Member

- Designed, fabricated, and flight-tested a 1-meter wingspan fixed-wing aircraft;~30 mph cruise, 2kg payload
- Building and flight testing an autonomous flying wing; horizontal takeoff, vertical takeoff, payload detachment, etc.

Access Engineering at Penn - Mechanical Engineering Head Teaching Assistant

- Taught hands-on mechanical engineering labs to 70+ Philadelphia public high school students per semester
- Instructed CAD (Onshape) and guided structural design projects from concept through fabrication and testing

Penn ADAPT — Assistive Devices & Prosthetic Technologies (Bionic Arm Team)

- Designed low-cost, modular elbow-down prosthetic arm components emphasizing accessibility and ease of assembly
- Developed 3D-printable mechanisms with print-in-place joints to reduce part count and manufacturing complexity

MakeMIT x Harvard Hardware Hackathon - Echo Pro

- Built a machine-learning smart cane prototype with obstacle detection and autonomous steering for the user.
- Won Best Use of Viam, Best Use of deFlex, and Communication Award.

Georgia Science & Engineering Fair - Independent Researcher

- Designed and built an EMG-controlled assistive glove for finger motion restoration, winning top county/state honors
- Developed a novel, portable, solar-powered, electrochemical desalination device, winning top county/state honors

ADDITIONAL INFORMATION

- Technical Skills: Python, Java; SolidWorks, Onshape, XFLR5, CFD, FEA, Arduino, Raspberry Pi, circuit board assembly, soldering, electrical circuitry, laser cutting, CNC machining, 3D printing
- Languages: Fluent in English, Chinese; Conversational Proficiency in Spanish
- Certifications: Certified SolidWorks Associate, Certified SolidWorks Professional, Harvard CS50T
- Awards: Yale Science and Engineering Association Award (2023, 2024), GSEF 1st Honors, National Merit Scholarship, RSEF Best Biomedical Engineering Project, Community Innovation Award, US Stockholm Regional Junior Water Prize Award, RSEF Best Environmental Engineering Project