

Daniel Chen

Seek to contribute in Instrumented Testing, Robotics Design, and System Integration

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SUMMARY

A Physics major graduate with a Mechanical Engineering and Robotics concentration. Offers expertise in robotics research, automated system development, test automation, and mechanical system design.

EXPERIENCE

Nanomechanical & Surface Characterization Engineer, Apple, Cupertino, CA 2024.2 – 2024.3

- Analyzed nanomechanical material properties and nanoscale dynamic mechanical analysis based on Anton Paar UNHT nanoindentation testers.
- Administrated machine frame compliance and indenter tip area function calibration through automated calibration procedure.

Relevant Skills: Nanoindentation, Instrumented Testing, Test Management, Data Analysis (JMP Pro 17)

Robotacist, ElisXR, Omni Astrobiotics Inc., Berkeley, CA 2023.8 – 2024.2

- Designed and prototyped a compact housing and ergonomic structure for an AI powered, XR headset product.
- Developed a compact telescopic mechanism featuring the automatic extension and retraction of the XR screen component.

Relevant Skills: Mechanical Design, Material Mechanics, 3D Print Prototyping, CAD (Fusion 360)

Research Assistant, Hawkes Lab, University of California, Santa Barbara, Santa Barbara, CA 2022.7 – 2023.9

- Advanced research on a fast, steerable burrowing vine robot based on pneumatic tip-extension mechanism
 - Built and integrated an automated testing system for anchoring force experiments; developed a multi-anchor load distribution system based on failure prediction from real-time force data.
 - Conducted a poster presentation “Advancing Robotic Anchoring with Intelligent Load Distribution” at Southern California Robotics Symposium 2023.

Relevant Skills: Test System Design, Test Automation, Pneumatic Soft Robotics, Data Analysis (MATLAB), Arduino

EDUCATION

Bachelor of Science in Physics, University of California, Santa Barbara – GPA: 3.52/4.0 2019 - 2023
Concentration in Mechanical Engineering and Robotics

- Physics Academic Honors

COURSEWORK

- Physics:** Advanced Mechanics, Electromagnetism, Quantum Mechanics, Thermal and Statistical Physics, Analog Electronics, Scientific Computation (Python)
- Mechanical Engineering:** Mechanical Engineering Design, Control System Design, Robotics: Design Laboratory, Robotics: Planning and Kinematics
 - Capstone Program:** Developed a Focal Plane Array (FPA) test unit featuring a mechanically adjustable cryogenically-cooled iris diaphragm within a vacuum chamber.

SKILLS

Languages: Fluent English and Chinese, intermediate Japanese

Coding: Java, Python, C++/Arduino, MATLAB, LaTeX, Markdown

Software: SolidWorks, AutoCAD, Fusion 360, Adobe PS/Pr, JMP Pro 17, Inkscape, Fritzing

Miscellaneous: 3D printing (FDM and SLA printer, TPU printing), laser cutting

Hobbies: Hiking, Camping, Fencing/HEMA, Board Games, Miniature Model Making, Bass Guitar Playing, Mixology