Claire T. Chen

Berkeley, CA

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Astrophysics and physics undergraduate at UC Berkeley. Passionate about arts, science, and engineering, and my dream is to apply all three to explore and understand the universe. Research interests in fusion energy, plasma physics, and cosmology.

Education

University of California Berkeley   *Berkeley, CA, USA*
B.A. IN ASTROPHYSICS, PHYSICS   *Aug 2021 - May 2025*
- GPA: 3.6
- Instructor for **Python for Astronomers DeCal**, Jan 2022 - Dec 2022

Skills

Engineering   Altium Designer, LTSpice, PCB design + assembly, electronics testing, basic machining, TiG welding, Ansys HFSS
Programming   Python (numpy, matplotlib, tensorflow, pandas, scipy, astropy, ffmpeg, pymoo, vtk, multiprocessing), Java, C, C++
Languages   English, Mandarin Chinese, French

Experience

Commonwealth Fusion Systems   *Devens, MA*
TECHNICAL INTERN, TOKAMAK OPERATIONS TEAM   *May 2023 - Aug 2023*
- Developed a code for autonomous generation of plasma facing component designs for heat flux minimization
- Analyzed operational scenarios for SPARC using the Heat flux Engineering Analysis Toolkit (HEAT)
- Presented research at PPPL - Graduate Summer School 2023

Space Enterprise at Berkeley   *UC Berkeley*
AVIONICS LEAD   *Aug 2021 - present*
- Leading avionics architecture development (ground support, telemetry, flight avionics) for spaceshot liquid bipropellant rocket project
- Designed and built flight computers, led development of ground support equipment and thrust vector control avionics
- Organized workshops for teaching PCB design and assembly, firmware development to new members

Space Sciences Laboratory - Compton Spectrometer and Imager   *UC Berkeley*
RESEARCHER, SYSTEMS ENGINEERING/ELECTRICAL ENGINEERING   *Jan 2022 - present*
- Designed and characterized analog electronics for the Background and Transient Observer (BTO) instrument
- Designing system architecture for BTO electronics to meet science objectives and integrate with spacecraft

UC Berkeley SALT Research Group   *UC Berkeley*
RESEARCHER   *Aug 2023 - present*
- Computation and modeling for CFS-UC Berkeley INFUSE project
- Electrochemistry modeling with COMSOL to understand tritium diffusivity in FLiBe

UF Astronomy (Prof. Jian Ge)   *University of Florida*
RESEARCHER   *2020 - 2021*
- Developed methods to search for small exoplanets with neural networks, resulting in discovery of 2 new exoplanet candidates
- Developed procedure for utilizing GPU processing to rapidly normalize, fold, and analyze Kepler Space Telescope lightcurve data
- Presented results at Regeneron Science Talent Search, recognized by SETI at Synopsys Science Fair

Homestead Robotics (FRC Team 670)   *Cupertino, CA*
TECH LEAD & VP OF DEVELOPMENT   *2017 - 2021*
- Led design of high level software, control and electrical systems, organized team of 40 students in creating competitive robots
- Developed curriculum for programming, controls, and electronics workshops for team and Western Region Robotics Forum events
- Collaborated with leadership across Fremont Union High School District to develop an initiative to build a robotics facility

Freelance Digital Illustration   *UC Berkeley*
DIGITAL ILLUSTRATOR & GRAPHICS DESIGNER   *2020 - PRESENT*
- Created graphics (apparel design, mission patches, stickers, posters) for Space Enterprise at Berkeley, Berkeley Astronomy
- Fantasy scenery and landscape illustration, VFX, tattoo design. Featured on Critical Role and Darrington Press