

# Troy Hanfei Tian

+1 (607) 339-1468 | [troyhtian@ucla.edu](mailto:troyhtian@ucla.edu) | [linkedin.com/in/troy-tian](https://www.linkedin.com/in/troy-tian) | [github.com/troy-h-tian](https://github.com/troy-h-tian) | [personal-website](#)

## EDUCATION

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### University of California, Los Angeles

GPA: 3.64

*Bachelor of Science in Computer Science; Bachelor of Arts in Asian American Studies*

*Sep. 2025 – Jun. 2029*

## EXPERIENCE

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### Research Assistant

Jan. 2026 – present

*Computation and Language for Society Lab @ UCLA*

*Los Angeles, CA*

- Designed and implemented a referenceless end-to-end NLP/CV evaluation pipeline for VLM-generated image accessibility descriptions, using PyTorch and pandas to compute compatibility and usefulness metrics.
- Empirically proved axis independence, nuancing evaluations across 53 Wikipedia image-context pairs and numerically validating notions of differential needs of sighted versus blind and low-vision (BLV) Internet users.

### Research Assistant

Jan. 2026 – Jun. 2026

*UCLA Smart Grid Energy Research Center*

*Los Angeles, CA*

- Build a benchmarking methodology for LLM inference power consumption under realistic traffic conditions, with a micro-macro validation framework. Quantify transient power surges under heterogeneous request distributions, including temporal burstiness and nonlinear GPU utilization.
- Validate hardware-parameterized power lookup dictionary for sensitivity analysis.

### Research Fellow

Jan. 2026 – May 2026

*Supervised Program for Alignment Research*

*Remote*

- Conduct AI governance metaresearch, formalizing framework to analyze and forecast the risk of capabilities spillover. Rigorously examine historical cases (e.g. RLHF), forging strategies for differential safety progress.
- Lead interactive platform, managing deployment, UX, and automated development pipeline. Integrate with survey/contribution workflows. Contribute to framework principles, spillover metrics, uncertainty model, evals.

### Software Intern

Nov. 2023 – Apr. 2024

*Web Surfing Studios*

*Remote*

- Programmed a simulated B2C booking site with customizable admin dashboard and password testing/management systems. Built and unit-tested full-stack C# solution with MVC scaffold, passing queries against EF Core context.
- Implemented 6 reusable essential features across 25+ pull requests, accounting for customer- and vendor-facing UI/UX. Provided concrete proof-of-concept by feasibility and viability standards for potential future iterations.

### Head Robotics Project Intern

Jun. 2023 – Jul. 2023

*Yang Lab, University of Rhode Island*

*Kingston, RI*

- Constructed and programmed autonomous model cars, developing navigation systems on embedded Raspberry Pi computers. Coordinated \$10k+ of total funding and other logistics as team lead to support a 7-intern group.
- Engineered computer vision processing with collaboratively-developed Python AI algorithms. Automatically ran a challenging track including sharp turns and obstacles, reaching 95% successful runs on a scalable system.

## PROJECTS

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### AI Scholars Fellowship — ACM AI @ UCLA

2026

- Utilize JEPA/LeJEPA architecture to fine-tune a CLIP-style multimodal encoder, leveraging global semantic alignment from image-text pairing while correcting for spatially precise information.
- Conduct ablations and experiments in latent-space alignment to formulate loss functions, including formulating regularised hybrid objectives that combine contrastive and predictive loss.

### Civilization VI Modification Development

2024 – Present

- Implement from-scratch mods for *Civilization VI*, integrating novel content with cross-compatible, multi-version support. Create 3 playable civilizations with self-designed features.
- Script relational data using SQL to engineer asset characteristics, supported by XML config and detailed parameter definitions. Validate and debug for a 100% crash-free player experience.

## TECHNICAL SKILLS

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**Programming Languages:** Python, C++, C#, Java, HTML/CSS/JavaScript/TypeScript, PHP, Swift, Ruby, Lisp

**Technologies and Frameworks:** PyTorch, scikit-learn, Statsmodels, Pandas, stable-baselines3, React, Node, Git, XML, SQL, Linux, Bash, Emacs, Regex