James Arnold Hou

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Education

California Institute of Technology - GPA: 4.3 (A+) Pasadena, CA

Pursuing B.S. in both Computer Science & Economics *Sep. 2023 – Present*

Entrepreneurship Club President; Student Investment Fund ($1.5M AUM) Excomm; Board of Control Rep.

Experience

Research Intern Jun 2025 – Present

MIT HAN Lab - Working under Prof. Song Han on ML Systems and Efficient AI research (VLAs). *Cambridge, MA*

Robotics Intern June 2024 – Sep. 2024

Hillbot AI (Embodied AI) *San Diego, CA*

- Developed **reinforcement learning** based robotic dexhand manipulation policies (**PPO, SAC**).
- Built simulated benchmarking environment to test and improve navigation and manipulation pipelines.

Summer Investment Analyst July 2023 – Sep. 2023

Anzu Partners (Deep Tech VC) *La Jolla, CA*

- Led market surveying for **Gen AI**-related infrastructure and investment; supported portfolio companies with commercial traction, and top-of-the-funnel efforts.
- Identified and automated internal workflow bottlenecks - **Sales Navigator** processor now used by VP and co.

Co-founder July 2023 – Present

MaizeTix (www.maizetix.com) *Ann Arbor, MI*

- Co-founded MaizeTix, a secure student-to-student sports tickets platform that automates the exchange process.
- Implemented **full-stack web platform** with automated ticket agents that has garnered **200k+** views, **5k+** customers and **six figures** in volume within a month of launch, running at significant positive cashflow.

Simons Fellow July 2022 – Jan. 2023

Stonybrook University & U.S. Geological Survey (USGS) *Long Island, NY*

- Applied **large language models (LLM)** and web-scale data mining to extract casualty statistics from noisy social media on a real-time basis; pending integration into **USGS PAGER** system.
- Collaborated with **USGS** and published in *International Journal of Disaster Risk Reduction* and *ACM SenSys*.

Publications & Honors

Publications

- A. Sehgal*, **J. Hou***, S. Chaudhuri, J. J. Sun, Y. Yue. "FormulaCode: Evaluating Agentic Superoptimization on Large Codebases." ICML 2025 Workshop on Programmatic Representations for Agent Learning.
- L. Shi, Y. Liu, L. Zeng, **J. Hou**, L. Chen, Z. Huang, H. Su. "TF-HOT: Training-Free Hand-Object Pose Tracking and Optimization for Dexterous Manipulation." In submission process.
- C. Wang, D. Engler, X. Li, **J. Hou**, D. Wald, K. Jaiswal, and S. Xu. "Near-Real-Time Earthquake-Induced Fatality Estimation Using Crowdsourced Data and Large-Language Models." International Journal of Disaster Risk Reduction 111 (September 1, 2024): 104680. https://doi.org/10.1016/j.ijdrr.2024.104680
- **J. Hou** and S. Xu. 2023. "Near-Real-Time Seismic Human Fatality Information Retrieval from Social Media with Few-Shot Large-Language Models." In Proceedings of the 20th ACM Conference on Embedded Networked Sensor Systems (SenSys '22). Association for Computing Machinery, New York, NY, USA, 1141–1147. https://doi.org/10.1145/3560905.3568431
- Z. Ding, **J. Hou**, Z. Tu: "Point cloud recognition with position-to-structure attention transformers." arXiv preprint arXiv:2210.02030 (2022)
- **J. Hou**, V. Kouznetsova, and I. Tsigelny. "Calming the Storm: Identifying Multi-Cytokine Inhibiting Drugs with Machine Learning for COVID-19 Induced Cytokine Storms." Microbiol Infect Dis. 2022; 6(1): 1-7.

Honors

- Regeneron Science Talent Search (STS) Scholar
- Simons Fellow: Selected as one of 40 out of nationwide pool to research as a scholar of the Simons program.
- Bill Gross $100k Entrepreneurship Competition Finalist: Pitched to venture capital panel and won $10k as finalist.

Technical Skills

Languages & Frameworks: Java, Python, C, OCaml, PyTorch, Robot Operating System (ROS), JAX, TensorRT, x86-64, Manskill, SAPIEN, JavaScript, HTML/CSS, Django, NVIDIA Nsight Systems, MATLAB.
Coursework & Theory: Robotics, Deep Learning, Reinforcement Learning, Natural Language Processing, Explainability/Fairness, Theory of Computation, Computer Architecture/Systems, Algorithms, Functional Programming, Linear Algebra, Differential Equations, Game Theory, LLM for Reasoning.