Stone Tao

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Highlights

- 3x MIT Battlecode **Finalist**, best result: 1st out of solo competitors, 5th overall out of 600+ graduate to HS students globally
- Developed a distributed and scalable **generalized Artificial Intelligence programming competition framework**
- Self driven, persistent, full stack engineer and **researching AI and HCI**

Work Experience

Incoming Software Engineering Intern at QuantCo   Jun. 2021 to Sep. 2021 | Berlin, Germany

AI Research Intern at SU Lab   Jan. 2021 to Now | San Diego, USA

- Working on **Reinforcement Learning** (RL) and **Robotics** for the SAPIEN project under Professor Hao Su. Currently building new gym environments for RL benchmarks. Also using Python, Docker, MongoDB, Typescript to develop the RL benchmark system full stack.

Software Engineering Intern at LaunchDarkly   Jun. 2020 to Sep. 2020 | Oakland, USA

- Worked full stack on **feature workflows, semantic patches**, and **conflict handling** to enable state independent scheduling of feature flagging, allowing users to release complex features with confidence. Developed a REST API to enable an approval review system for feature flagging, a feature requested by LaunchDarkly's largest business customers. Used Go, React, and Typescript

Undergraduate Researcher at ProtoLab / Design Lab at UCSD   Oct. 2019 to Now | San Diego, USA

- Researching at the intersection of **AI and HCI**. Currently researching embedding humans into the ML loop, crowdwork, and how it impacts trust and reduces bias. Also researching novel approaches to data discussion.
- Worked on technology that facilitates research at the **intersection of social computing and design**, developing tools and techniques that change the way people solve complex problems creatively and collaboratively

Computer Science Tutor at UCSD   Mar. 2020 to June. 2020 | San Diego, USA

- Worked under Dr. Paul Cao to tutor 700+ students in CSE 12: Intro to Basic Data Structures and OO Design
- Interviewed students weekly, wrote auto-grader code and graded programming assignments, helped students during lab hours

Full Stack Developer Intern at TAOS Data   Jun. 2019 to Sep. 2019 | Beijing, China

- Developed a Node.js connector for the company's product, TDengine, a big data platform. Created a **C interface** to enable high speed interaction with TDengine with **subscription, async,** and **stream** functionality.

Projects

Reinforcement Learning Gym and Library in Typescript - Apr. 2021: github.com/StoneT2000/rl-ts

- Implements a **gym interface** and RL library in typescript for reinforcement learning on the web and with Node.js

Fast Neural Style Transfer with Modern TensorFlow 2.0 - Dec. 2020: github.com/StoneT2000/modern-tensorflow-fast-style-transfer

- Improves past work that used old tensorflow v1 with tf v2 for **more efficient** training, data loading, and **cleaner** syntax

Dimensions - Generalized AI Competition Framework – Apr. 2020: github.com/stonet2000/dimensions

- Allows users to easily create their own AI competition that allows for **language agnostic** bots to compete. Can facilitate research into general AI and RL. Provides **Google Cloud** and **MongoDB** integrations to **scale** up a competition in 3 lines of code
- Was used to run UCSD's first ever AI Programming competition. Ran 50,000+ matches per day for just $2

Awards

- **MIT Battlecode (AI Competition) Finalist**: Made **finals** 3 times in a row (2019-2021), competing against over 600 teams of high school to graduate students, won the **Five Rings adaptive strategy award** for spearheading a influential strategy in 2021.

Education

Undergraduate: University of California San Diego, San Diego, California, Expected graduation date: Jun. 2023

- B.S. double major in Computer Science and Cognitive Science, intended Math minor; GPA: 3.98/4.0 - Provost Honors List
- Courses: Honors Linear Algebra & Honors Calculus sequence, Graduate Computer Vision (ML meets Geometry), Graduate RL (Robotics and RL), Decision Making in the Brain, Advanced Data Structures, Design and Analysis of Algos, Data Science in Practice
- Activities: Foundng president of ACM AI at UCSD, hosting competitions, workshops on topics such as GANs, RL, Pathing etc. Member of Tau Beta Pi Honors Engineering Society at UCSD

Skills

- **Programming Languages:** Typescript, Python, Go, C, C++, Java, PHP, Javascript
- **AI:** RL, 3D CV (Object Detection, Segmentation, Pose Estimation), GAN, Deep Learning, Decision Trees, Clustering Algorithms
- **Frameworks/Engines/Libraries:** Pytorch, Tensorflow, Pandas, scikit-learn, OpenAI gym, Numpy, Matplotlib, Seaborn, Node.js, React, MongoDB, GraphQL, Express.js, MySQL, LAMP
- **Tools:** Docker, Google Cloud, Jupyter Notebook, Git, Adobe Photoshop

Other

- **Sports**: Competitive fencer. Assistant coach at the La Jolla Fencing Academy.
- **Languages:** Fluent English and Chinese
- **Interests:** Artificial Intelligence, Design, Physics, Mathematics (Primarily combinatorics)

References

Available upon request