Stone Tao - Resume

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Highlights

- Full Stack Developer, a MIT Battlecode Finalist, finished 66th in Halite 3 out of 4000+ professionals and students.
- Independently developed & designed a commercial website for the tech company TAOS Data, with traffic up to 18k+ daily users.
- Developed the first Java version of the IgushArray, which works like ArrayLists but with improved $O(\sqrt{n})$ removal and insertion

Skills

- **Programming Languages:** (Advanced) Javascript, HTML, CSS; (Proficient) Java, Python, PHP; (Basic) C, C++
- **Frameworks/Engines/Libraries:** (Advanced) Node.js, Express.js, React.js, GraphQL, Gulp, jQuery, Chart.js, p5.js; (Proficient) MySQL, Jest, WordPress, Matplotlib, Seaborn, Pandas, Numpy; (Basic) SASS, D3.js, Keras+TensorFlow, MongoDB
- **Software:** (Advanced) Adobe Brackets, Atom; (Proficient) Photoshop, IntelliJ, Jupyter Notebook, FileZilla, VirtualBox, Git, Google Analytics

Work Experience

Full Stack Developer Intern at TAOS Data – Jun. 10, 2019 to Sep. 21 | Beijing, China

Independently developed and maintain a Node.js Connector to allow Node.js apps to connect to the company's product, TDengine, an open source big data platform designed and optimized for IoT with over 10,000+ stars on GitHub. Connector code at github.com/taosdata/tdengine/tree/master/src/connector/nodejs

- Created a C interface, promise based, multi-level API, and used buffers for high speed, effortless interaction with TDengine. Implemented subscription, sync and async, and stream functionality.

Independently developed & designed the company website: https://www.taosdata.com.

- Developed to support English & Chinese effortlessly. Integrated WordPress as a headless CMS. Optimized SEO.
- Web Tech Stack: Aliyun, Apache, PHP, MySQL, Node.js, Express.js, WordPress, Google Analytics

Improved workflow and quality of documentation for TDengine

- Developed parsers in Node.js that parse markdown docs and sync the docs on GitHub with those on the company website, easily allowing the community to edit our documentation. Also wrote, reviewed, and edited docs and tech blogs.
- Introduced Typora as a text editor with the company site's CSS theme to show markdown the same way it would display on the site.

Selected Projects

IgushArray Java/JS – Sep. 2019 to Present (Repository Link: github.com/StoneT2000/IgushArray-Java)

- Developed the first Java implementation of the IgushArray, which has the same time complexities on operations as the ArrayList, including $O(1)$ access time, but with improved insert and removal times of $O(\sqrt{n})$. Works as a one for one replacement for ArrayLists in code. Also created JS version which implements many of the same methods the built in JS array has according to the ECMA 262 specifications.

AI Visuals – Jan. 2019 to Present (Link: stonet2000.github.io/AIVisuals, Repository Link: github.com/StoneT2000/AIVisuals/)

- A personal project where I use raw Javascript and TensorFlow.js to create visualizers of the machine learning process. So far, I have implemented a polynomial fitter and K-means.

Online English Learning Platform – Sep. 2018 to May. 2019 (Link: esee.isb.bj.edu.cn, Repository Link: It is a private repository)

- Collaborated on developing a platform for local Chinese students to easily read English books from my school's library anywhere and anytime. Primary contributions are the overall design, book procession and integrating text-recognition for digitizing library books.

Polytomizator – Jun. 2018 (Link: stonet2000.github.io/Polytomizator, Repository Link: github.com/StoneT2000/Polytomizator/)

- Developed a web app that allows users to create low-poly art in seconds compared to the hours it takes to create with Photoshop/Illustrator. Users can fine-tune the low-poly art or have the site auto-generate the art.
- A mix of image filtering, computer vision techniques, and Poisson disk sampling help auto-generate better low-poly art.

Awards

- **MIT Battlecode 2019 (AI Competition)**: Finalist, 9th overall, 4th out of high school teams (Competed in JS) – Jan. 2019
- **Halite 3 (AI Competition)**: Placed 66th out of 4000+ students and professionals globally. Achieved admiral status by placing above Two Sigma's base bot. 5th placed high school student out of 500+ HS students. 1st place JavaScript bot. – Nov. 2018 to Jan. 2019
- **USA Mathematical Talent Search 2018**: Silver Medal – May 2018
- **School (ISB) Math Award**: May 2016, May 2019

Education

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

- Current Major: Cognitive Science with Specialization in Machine Learning and Neural Computation; GPA: 4.0/4.0
- Selected Courses Taken: CSE 11 (Intro. to CS and Object-Oriented Programming: Java)
- Selected enrolled courses: CSE 20 (Discrete Math), CSE 12 (Data Struct. and OO Design), MATH 31AH (Honors Linear Algebra)
- Intend to double major with Computer Science and Engineering

Community Engagement

Collaborated with an American/Chinese non-profit organization to present my experiences on AI competitions, Jun. 29 2019
Presented an one hour presentation on AI and my experiences with Halite and Battlecode through the QianLiao platform, gaining nearly 600 views. Posted script and resources to my GitHub: github.com/StoneT2000/AI-Seminar-Script-and-Resources/

This seminar was a part of the 2019 北美成长公益系列讲座

ESEE, Co-executive of multi-media department, 2018 to 2019
Collaborated on the online English learning platform for the Empowerment Through Self Esteem Education service club.

Sports

Fencing: Competitive fencer. Currently an assistant coach at the La Jolla Fencing Academy. Founded the fencing club at my high school, ISB.

Languages/Interests

Languages: Fluent English and Chinese, Basic Spanish. | **Interests:** Web Development, Artificial Intelligence, Physics, Mathematics (Primarily combinatorics)