Alvin Hou

Stanford, CA 94305

+1-415-490-8163 | alvinhou@stanford.edu | Github: CryoliteZ | Website: cryolite.me | LinkedIn: Alvin Hou

EDUCATION

Stanford University — Stanford, CA

M.S. in Computer Science | Artificial Intelligence track — *Sep 2019 - Expected Jun 2021*

GPA: 4.0/4.0   **Awards**: Citadel Terminal AI Coding Competition Cal vs Stanford 2020 2nd place

Coursework: Machine Learning, Data-Intensive Systems, Natural Language Processing, Mining Massive Data Sets, A.I.

National Taiwan University — Taipei, Taiwan

B.B.A. in Information Management — *Sep 2014 - Jun 2018*

Rank: 1/39   **GPA**: Overall 3.95/4.3; Major 4.05/4.3

Honors: NTU Presidential Award, Phi Tau Phi Honor Society, Get Fresh System Development Contest National Championship

Teaching/Leadership: Teaching assistant of Calculus, Head of the NTU IM Summer Camp teaching team

WORK EXPERIENCE

Apple — Cupertino, CA

Software Engineer (Machine Learning) Intern | PySpark · Tableau — *June 2020 - Present*

- Designed and built a **new scalable machine learning pipeline**; implemented anomaly detection algorithms with **PySpark** which achieved **1500%** runtime performance boost compared to previous works (151 → 10 minutes for 155 million of data)
- Run dimensionality reduction and unsupervised clustering algorithms with **SparkML** and **Scikit-Learn** to provide data insights
- Built interactive **Tableau Dashboards** for visualizing large-scale machine learning analysis results

ASUS Intelligent Cloud Services — Taipei, Taiwan

Software Engineer (Machine Learning) Intern | NLP · Azure · DevOps — *May 2019 - Jul 2019*

- Implemented Multi-Task Learning BERT models for natural language understanding with **Pytorch**; fine tuned the models on 100k+ training data and achieved **92.8 F1 score** with 22 class on 15,000 testing data
- Improved ASUS parser's accuracy by 15% and deployed to **Azure Kubernetes Service** as RESTful API services using **Docker**
- Built a data annotation tool for displaying incorrect parsing result; constructed an **autonomous CI/CD workflow** for a team of 10 Machine Learning and Linguistic engineers (**Azure Pipeline, Docker, Python, Java**)

IBM — Taipei, Taiwan

Software Engineer Intern | Fullstack · IBM Watson — *Jul 2017 - Jun 2018*

- **Fullstack developer** of IBM Impact Grants program, developed and redesigned the NGO Teach For Taiwan's website with HTML/CSS, **JavaScript** and **Php** in production
- Reduced the NGO's operating cost by 2/3 through integrating **Salesforce Sales Cloud** into its donation and membership system
- Collaborated with UX designers and product managers to improve mobile and online banking user experience for 6 different banks in Taiwan; utilized **IBM Watson Assistant** for customer service chatbot

Industrial Technology Research Institute — Hsinchu, Taiwan

Software Engineer Intern | Deep Learning · Web — *Jul 2016 - Feb 2018*

- Researched on Plants Recognition Project to classify and detect 240 Taiwan endemic plant species images with **Keras**; improved top-5 accuracy from 60.0% to 81.6% using ResNet-50
- Developed Story Map, a geographic based photo gallery utilizing **Google Map API**, on both web and Android for Taiwan's largest education media platform Cloudplay

SKILLS & ACTIVITIES

- **Programming**: Proficient: Python, JavaScript; Familiar: Java, C++   **Web Development**: Node.js, React, Flask, PostgreSQL
- **Machine Learning**: Pytorch, Spark, Scikit-Learn, Numpy, Pandas, FastAPI   **Tools**: Git, Azure, Docker, Bash, Travis CI
- **Organizations**: NTU Open Source Community: Open sourced campus support Chatbot and **extensions with 15000+ users**; Code.org: Volunteer interpreter supporting high school computer science teachers in Taiwan

SELECTED SIDE PROJECTS

Recommendation Website for CS Graduate Programs [FastAPI, PostgreSQL, Docker, Chart.js] [Website] [Code] [Docs]

- Built APIs with **FastAPI** and **Postgres** that returns personalized program recommendations based on a student's background
- Deployed the website and Swagger docs on Heroku with a CI/CD workflow using **Docker Compose** and **CircleCI**