Thomas Huang

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EXPERIENCE

Machine Learning Scientist — **San Jose, California**
Alectio — *October 2019 - Present*

- Architect and core developer of an internal Python machine learning library for semi-supervised learning (active learning). This library was the primary method for developing internal deep learning experiments and for transferring new algorithms/strategies into production.
- Primary contributor of the compute/ETL pipeline capable of handling many gigabytes of customer data in parallel. Implemented using Apache Airflow, S3, DynamoDB, ElasticSearch, SQLite, Docker, and Kubernetes.
- Implemented multi-processing and batch-processing (7x faster processing speed), integrated SQLite, and created use-case examples in a Flask based SDK for model training and inference.
- Conducted applied machine learning research in active learning by implementing papers and by exploring concepts such as label noise, early stopping, and cost-sensitive active learning.
- Functioned as a primary point of contact to new customers by answering questions, debugging errors, and walking them through our platform.
- Interviewed and helped train new machine learning engineers/scientists, and created company blog posts (`https://bit.ly/2TX0zAs`) and videos (`https://bit.ly/3d5fQpl`).

Artificial Intelligence Fellow — **San Francisco, California**
Insight Data Science — *May 2019 - August 2019*

- Developed a pipeline using a generative adversarial network (pix2pixHD) for a YC-backed startup that "de-warps" images of poorly scanned documents into clean documents that can be readable by OCR models such as Tesseract.
- Deployed my model on AWS using Flask, EC2, and S3, where my model could reduce word error rate by up to 40%.
- Open sourced my work on Github, where it now has 60 stars (`https://github.com/thomasjhuang/deep-learning-for-document-dewarping`)

Software Engineering Intern — **Indianapolis, Indiana**
Genesys — *May 2018 - December 2018*

- Developed and deployed a REST API for an internal text-to-speech microservice in C++ to handle ssml or plaintext requests for .wav file speech responses that handled tens of thousands of daily requests.
- Developed a C++ library for Google Dialogflow that enabled several other teams to be able to create customer facing Dialogflow bots.

EDUCATION

Purdue University — **West Lafayette, IN, USA**
B.S. Computer Science Minor in Mathematics — *2015-2019*

Relevant Coursework: Data Structures and Algorithms, Real Analysis, Advanced Linear Algebra, Relational Databases, Web Information Search, Statistical Machine Learning

KEY SKILLS

Languages: Python (4y), C++(1y), Java(1y), SQL(1y)
Tools: Apache Airflow, AWS (S3, EC2, DynamoDB), Git, Spark, MLFlow, Docker, Kubernetes
Python Packages: PyTorch, Keras, Tensorflow, Sklearn, SQLite, PyArrow, Altair