Patrick Huarng

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Education

- **The University of Chicago** — Chicago, IL
  Master of Science in Computer Science; GPA: 3.80 — *Aug. 2017 – Jun. 2019*
- **Michigan State University** — East Lansing, MI
  Bachelor of Arts in Finance; GPA: 3.50 — *Aug. 2007 – May. 2011*

Experience

- **University of Chicago: Center for Translational Data Science** — Chicago, IL
  Software Engineer — *Apr 2019 - Present*
  - **GDC API**: The GDC API is a Python Flask system that handles over a 1 million downloads a month and over 10 petabytes of data downloaded annually. Implemented new features like admin endpoints and tarfile download of clinical data.
  - **Reports API**: Convert the reporting features of the GDC API into a microservice. Containerize and deploy the new microservice into various environments. Enhance batch processes to backfill data with additional information (ie. genomic experimental strategy).
  - **ESBuild**: ESBuild is a Python batch-layer system that creates the data for ElasticSearch indices. Refactored and improved caching and denormalization processes of the system improving memory consumption and runtime performance.
- **UChicago Systems Research on Availability, Reliability, and Efficiency** — Chicago, IL
  Research Assistant — *Nov 2018 - Apr 2019*
  - **MittOS Memory**: Advised by Dr. Haryadi Gunawi and Cesar Stuardo. Research focus is on making distributed systems more performant by being able to signal to other machines that the JVM is in a stop-the-world garbage collection phase. Solutions implemented in OpenJDK 8, Java, and C++.

Projects

- **BeautyShelf**: Mobile and web application that keeps track of makeup expiry (beautyshelf.app). Developed the entire web front-and-backend systems in React, Python, Docker, and AWS.
- **Twitter-Stocks**: Big-data, Lambda architecture based system with ingestion, batch, serving, speed, and web layers. Built using Kafka, Scala, Spark, Hive, HBase, Python (Flask) and VueJS.