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.
  - **Python3 Upgrade**: Migrate a number of systems to be Python3 compatible. Removed unnecessary internal dependencies and dead code, upgrade external libraries, fix compatibilities, and increase code coverage where necessary to test various code branches.

- **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++.

- **National Opinion Research Center at the University of Chicago** — Chicago, IL
  Software Developer — *Oct 2018 - Apr 2019*
  - **Getting on Track**: Getting on Track is an education application that helps teachers and social scientists measure nationwide kindergarten readiness. Maintained the application, implemented new features, and modernized the Django-JQuery application into separate front-and-backend applications (VueJS and Django-REST).

- **Braintree (a Paypal Company)** — Chicago, IL
  Data Operations — *Jun 2018 - Aug 2018*
  - **Batch Systems**: Develop batch systems for the data operations team to process over 12 trillion records. Aggregate various information sources (incidents and other operational data sources) to determine merchant satisfaction levels using a logistic regression model.

- **Information Services Group (ISG)** — Detroit, MI; Stamford, CT; Chicago, IL
  Consulting Manager — *Dec 2011 - Apr 2019*
  - **Strategy & Technology Consulting**: Specialist in transaction advisory and cloud advisory. In my consulting career I have been ranked as a top-five consultant in the firm and have been awarded the chairman's club honor twice (an honor given to less than 2% of the company annually).

PROJECTS

- **BeautyShelf**: Mobile and web application that keeps track of makeup expiry (beautyshelf.app). Developed the entire web front-and-backend systems in React, Flask (Python), Docker, and AWS.

- **Twitter-Stocks**: Big-data, Lambda architecture based system with ingestion, batch, serving, speed, and web layers. Built using Kafka, Spark (Scala), Hive, HBase, Flask (Python), and VueJS.