Eric Doi

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EXPERIENCE

- **Grab** - Southeast Asia's leading ride-hailing/deliveries/payments platform — Singapore
  Senior Data Science Manager (2020) / Lead Data Scientist (2018) — *Aug 2018 - Present*
  - **Map search relevance**: Leading a team of 5 senior data scientists to improve retrieval and ranking of search results by collaborating with our engineering, product, analytics, and operations teams; we helped define performance metrics, write evaluation pipelines, tune Elasticsearch queries, train ranking models, and conduct analyses and A/B tests. Our team helped improve recall@3 by over 5pp.
  - **Growth-hacking**: Optimized video content using popularity heuristics for ~4x lift in views; prototyped NLP-based interest graph in Neo4j; used Locality-Sensitive Hashing to identify ~5x increase in similarity graph edges.

- **Retention Science** - A SaaS startup for intelligent marketing — Santa Monica, CA
  Data Scientist — *Apr 2015 - May 2018*
  - **Lead scoring**: Overhauled SparkML model for customers' likelihood of purchase; used regularization, feature engineering, probability calibration, and operational logic to improve PR-AUC by 20x and secure client renewal.
  - **Product recommendations**: Wrote Scala-Spark pipelines to transform clicks and transactions into item recommendations to 100M+ users daily; e.g. used Bloom Filters for 10x speedup of duplicate removal.
  - **A/B testing service**: Created a Play/Spark service to accelerate testing of ML models in production.
  - **Subscription churn prediction**: Built a Random Forest classifier in H2O (0.8 AUC) to aid churn prevention.
  - **Interim management**: Led team of 5 for 1y, triaging feature requests and upholding code standards.

- **Opera Solutions** - Enterprise analytics software and consulting firm — San Diego, CA
  Analytics Manager (2014) / Analytics Lead (2013) / Sr. Analytics Specialist (2011) — *Apr 2011 - Apr 2015*
  - **Healthcare billing optimization**: Co-developed and deployed an ML-driven system used by 30 auditors to recover ~$10M/year revenue by recommending missing HCPCS charge codes (US Patent 9,785,983).
  - **Feedback model**: Introduced a second-layer model to learn user feedback and cut false positives by ~30%.
  - **Model deployment**: Trained, deployed, and evaluated models for 100+ hospitals, with mean of ~40% precision.
  - **Management**: Led Delhi-based analytics team of 6, collaborated with software team, and presented to clients.

- **Laserfiche** - Pioneer in document imaging system software since 1987 — Long Beach, CA
  Software Engineer Intern — *Jun 2010 - Sep 2010*
  - **Mobile document scanner**: Ported a de-warping algorithm (Canny edge detection and Hough transform) from desktop to iPhone 3G; used heuristics to maintain speed and accuracy with 94% less RAM and 80% less CPU.

EDUCATION

- **University of California, San Diego** — La Jolla, CA
  MS in Computer Science (Artificial Intelligence); GPA: 3.9 — *Sep 2009 – Mar 2011*
  - **Capstone**: *Low-Rank Decomposition and Logistic Regression Methods for Link Prediction in Terrorist Networks*

- **Harvey Mudd College** — Claremont, CA
  BS in Computer Science; GPA: 3.5, with Distinction — *Aug 2005 – May 2009*
  - **Research**: *Grouping Strokes into Shapes in Hand-Drawn Diagrams*, AAAI 2010
  - **Awards**: Harvey S. Mudd Merit Scholar; Harvey Mudd National Merit Scholar

SKILLS

- **Data**: ETL (Spark, Airflow, Parquet, Oozie), Analysis (SQL, pandas/numpy/scipy, Excel, cut/grep/awk, dplyr)

- **Modeling**: Packages (SparkML, scikit-learn, H2O), Algorithms (Linear/Logistic Regression, Random Forests, GBDTs, Stacking; Collaborative Filtering; Learning-to-Rank; PCA/SVD, K-Means; Uplift modeling)

- **Software**: Languages (Python, Scala, C*, Bash, R), Tools (git, JIRA), Infra (AWS, Azure)

OTHER

- **Kaggle**: Top 10% rank in rental listing classification competition (https://github.com/ericdoi/kaggle-renthop-2017).
- **Eagle Scout**: As Senior Patrol Leader, led a BSA troop of 40+ in camping, community service, and personal growth.