

Tik Kei Dicky Woo

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EDUCATION

University of California, Berkeley	Aug 2023
Master of Information and Data Science, Data Science	
University of California, Berkeley	Dec 2013
B.S., Electrical Engineering and Computer Science/Materials Science and Engineering	

SKILLS

- Programming: Python, R, Perl, C++, Java
- Data Engineering: SQL/NoSQL Databases (i.e. PostgreSQL, Redis, Neo4j), Hadoop, Spark, AWS, GCP, Databricks
- Supervised Machine Learning: Regressions, SVMs, Decision Trees & Ensemble Methods, Naïve Bayes, kNNs, Recommendation Systems
- Unsupervised Machine Learning: PCA, Clustering, GMMs
- Deep Learning: CNN, RNN, LSTM, Transformers
- Statistical Modeling: Logistic Regressions, Time-Series Analysis, Panel Data Analysis, Model Selection & Diagnostics
- Electrical Engineering: NAND Flash, Device Physics, Analog/Digital Circuit Design, Computer Architecture
- Language: Native in Cantonese; Fluent in Mandarin Chinese and English

DATA SCIENCE PROJECTS

- **U.S. Domestic Flight Delay Prediction:** Group project for Machine Learning at Scale course. Leveraging Apache Spark on the Azure Databricks platform to develop large-scale ML models (logistic regression, gradient-boosting decision tree, XGBoost decision tree) to predict flight delays from all U.S. Domestic flight in 2021 based on US Department of Transportation flight dataset, and NOAA weather dataset from 2015-2020 (40M+ rows of data). Develop the ELT process, feature engineering (i.e. PageRank on U.S. airports) and ML algorithm pipelines (i.e. times-series block cross-validation, hyperparameters grid search) in 5 weeks of time
- **Optimal Delivery Solution with BART System:** Group project for Fundamentals of Data Engineering course. Performed ELT process to process multiple data sources (customer, BART and Google Map) into PostgreSQL database and Neo4j graph database. Utilized various graph analysis and Google APIs to find the optimal delivery solution utilizing the San Francisco Bay Area BART system.
- **Incident Management Predicting SLA conformance:** Group project for Applied Machine Learning course. Performed EDA and built ML models (i.e. random forest decision trees) on the IT service management data to predict a given service level agreement (SLA) can be achieved on time given the attribute of the submitted ticket.
- **Statistical Analysis on Global CO2 Concentration:** Group project for Statistical Methods for Discrete Response, Time Series, and Panel Data course. Performed time-series analysis (i.e. ARIMA model) on the Kneeling curve and NOAA CO2 concentration data to model and predict future CO2 concentration.

WORK EXPERIENCE

Product Engineer, Micron Technology, Folsom, CA Mar 2015 to Present

- Work under Non-Violate Engineering (NVE) Group for 3D NAND product development
- Design experiments to characterize device performance, power, read window budget, reliability on 3D NAND products to deliver optimal trims that meet performance/reliability specifications
- Develop state-of-art and advanced software to automate data collection and analysis on product validation and characterization experiments
- Present/share experiment & data analysis results and collaborate with other Engineering groups to problem-solve, configure, and optimize the product to improve performance, yield, cost, and reliability

Burn-in Engineer, ISE Labs, Fremont, CA Feb 2014 to Feb 2015

- Setup and monitor Burn-In & Reliability Qualification test for ICs and electronic devices in Incal, AEHR and MCC Burn-In systems.
- Verify components and circuit schematics of the custom-made Burn-in Boards with PCB Layout Designer. Use oscilloscope and logic analyzer to verify and test stress program. Program logic built-in self-test devices using JTAG program packages in LINUX environment.

LEADERSHIP

The LeaderShape Institute

College of Engineering, UC Berkeley

Selected to attend the LeaderShape Institute, an intensive national six-day leadership development program focused on developing skills related to community building, identifying, and communicating a vision, goal setting, leading with ethics and integrity, inclusive leadership, team dynamics, behavioral styles, emotional intelligence, and group decision making

MIDS COURSEWORK

W266	Natural Language Processing with Deep Learning
W261	Machine Learning at Scale
W271	Statistical Methods for Discrete Response, Time Series, and Panel Data
W207	Applied Machine Learning
W205	Fundamentals of Data Engineering
W203	Statistics for Data Science
W201	Research Design and Applications for Data and Analysis