Kevin W. Mickey

kevin@kmickey.com • +1 (614) 312-7579 • https://www.kmickey.com/

EXPERIENCE

JPMorgan Chase, Consumer & Community Banking   Columbus, OH
Vice President, Applied AI / ML Lead   *Feb. 2023 – Present*
Senior Associate, Applied AI / ML   *Sept. 2020 – Jan. 2023*

- **Led end-to-end development** of statistical and machine learning models that drove decisions and improved results for marketing that targeted consumers and small businesses, at the scale of the largest US bank.
  - Developed semi-supervised learning approach for an estimate used throughout the bank, resulting in more than $100 million dollars in business value while strengthening customer privacy. Filed for patent.
  - Managed full lifecycle of a suite of marketing acquisition models, including productionalization and ongoing usage. Prepared code for different deployment platforms, set up performance monitoring, socialized usage with business stakeholders, and adapted to changes in data sources or data quality.
- **Drove innovation and modernization** in models and their surrounding technical ecosystem.
  - Enriched data by aggregating features of lookalike clients using adaptation of K-nearest neighbors regression.
  - Developed GAM with tree-based segmentation to forecast checking account revenue over time.
  - Crafted a winning submission in internal LLM prompt engineering competition. Top 1% of ∼600 participants.
  - Guided project modernizations from SAS to python, pandas to Spark SQL, and from on-premise to cloud.
- **Recruited, trained, and mentored** junior data scientists and interns, and served as site lead for team of 4.
  - Organized and developed python package and other tools to support marketing model development.
  - Received multiple peer recognition awards for helping teammates, fostering culture of excellence and respect.
- **Facilitated communication and collaboration** among diverse cross-functional stakeholders and executives.
  - Assessed fairness of new methodology to ensure equitable treatment of individuals across race, age and gender by engaging in dialogue and gaining approvals from Legal, Data Use, Model Governance, and Fair Lending.
  - Delivered solution for model estimate by synthesizing success criteria from more than 100 downstream users, designing evaluation of limited sample data with both power and representativeness, and evaluating vendors.
  - Gained model review approval, prepared for audits and accelerated new development by writing comprehensive documentation of data, architecture, feature selection, hyperparameter tuning, usage and guardrails.

TrigAcademy.org Project   Remote
Co-Creator, Research Consultant   *Jan. 2019 – Aug. 2020*

- Created online educational platform to strengthen trigonometry concepts for high school and community college students. Developed interactive lesson materials, designed assessments, and wrangled data from external sources.
- Evaluated impact of lesson on student behavior and problem-solving performance, and explored potential prerequisites, moderators and correlations using assessment data from ∼2,000 students. Awarded $1.5M grant.

EDUCATION

Stanford University   Stanford, CA
Ph.D., Cognitive Psychology   *Jan. 2019*

- Introduced trigonometry as a domain to investigate role of rules and visualization in math reasoning, designed behavioral experiments, and predicted responses with logistic and ordinal mixed-effects models, in dissertation.
- Built recurrent neural network to model how statistics of training data (specifically, math problems) can bias learning trajectories. Presented at *CogSci* conference, originally using MATLAB, re-writing in PyTorch.
- Advised graduate students with analysis questions as statistics consultant in psychology department.
- Led weekly sections as TA for undergraduate, first-year graduate, and advanced graduate statistics courses.

University of Notre Dame   Notre Dame, IN
B.A. summa cum laude, Cognitive Science (Self-Designed Major) and Philosophy   *May 2011*

TECHNICAL SKILLS

- **Programming**: Python (pandas, scikit-learn, keras, pytorch), R (dplyr, lme4, ggplot2, shiny), JavaScript, MATLAB/Octave, Linux / shell scripting, Git, Jupyter notebooks, cloud services (AWS, DigitalOcean)
- **Data Engineering**: SQL (Postgres, SQLite, various ORMs), Teradata, Snowflake, Spark, Ray, DuckDB
- **Statistics**: GLM (regression, ANOVA), GAM, multilevel models, bootstrap, experimental design, power analyses
- **Machine Learning**: Random forest, gradient boosting, deep learning, LLM, Bayesian inference, SHAP