David Kim

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Experience

Glitch AI | Advance2

Senior Software Engineer (promoted from Software Engineer)   *(Nov 2018 - Mar 2020)*

A2 Complete Model: Marketing Mix Model built on machine learning / automation. Product aims to automate data collection, model tuning / fitting / ensembling / decomposition, and reporting. Built using Python & AWS. Clients for software include Airbnb, Honey, Bombas, Groupon, Blue Apron, and 23andme.

- Built end-to-end features: marketing lift, marginal effect curves, and scenario planning. Mathematical operations leveraged Pandas, Numpy, Sci-Kit Learn, and SciPy.
- Designed module for preprocessing data, which allows custom blends of feature engineering and feature selection methods to be created / updated / read from DynamoDB.
- Implemented CI / CD leveraging Terraform and AWS Codebuild to test and deploy code.
  - Pushes on branches with open pull requests trigger execution of test suite on AWS Codebuild. The test suite provides unit / integration tests, test coverage, and lint results.
  - Merging to production triggers building a new image with the latest code and updates the corresponding production batch job definition.
  - Application in production will always use the latest job definition by default, but can be rolled back to older versions by specifying job definition.
- Profiled and refactored memory/cost inefficient code, utilized py-spy and memory-profiler.
- Employed test driven development (TDD) for every code change, utilized pytest and coverage.
- Mentored juniors, performed code reviews, documented code / machine learning methods.

Blackwood Seven

Software Engineer   *(June 2017 - Nov 2018)*

- Built ETL pipeline (Airflow, PySpark, Redshift, AWS S3), which services the company's data lake.
- Created RESTFUL API (Flask containers run in Kubernetes) that was used to configure the ingestion, data normalization, and merging of custom data feeds.
- Integrated 20+ external API sources into ETL pipeline and data lake.
- Led data / configuration migration to a new system (MySQL to Redshift).

Pennymac Financial Services Inc.

Valuation Analyst   *(June 2016 - June 2017)*

- Automated processes involving calculations in Excel by using VBA, saving the team hours per process.
- Reviewed, cleaned, and documented BlackKnight Financial historical mortgage dataset. Created automated data checks for data updates. Dataset is now used company-wide.
- Built dashboard that tracks post-deal projected vs actuals for loan defaults, delinquency states, and cash flows. Dashboard has supporting checks for missing / inconsistent records and mappings.

Skills and Technologies

Languages: Python (PySpark, Boto3, Sci-Kit Learn, Pandas, Numpy, SciPy), SQL, R, VBA

Tools: AWS (S3, DynamoDB, Glue, Athena, Redshift, Lambda, Batch, Codebuild, ECS, ECR, SNS), Docker, Kubernetes, Terraform

Education

University of California Los Angeles (UCLA) - *Mathematics / Economics B.S.*