Seung Hyun (Andrew) Lee

CONTACT

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in //seung-hyun-andrew-lee

EDUCATION

University of Pennsylvania
Philadelphia, PA
Master's, Computer and
Information Technology
Grad. Dec 2023
GPA: 3.96/4.0

University of Virginia
Charlottesville, VA
Master of Science, Statistics
Grad. June 2019
GPA: 3.96/4.0

University of Virginia
Charlottesville, VA
Bachelor of Arts, Statistics
Jefferson Scholar
(Full-ride Scholarship)
Grad. June 2018
GPA: 3.94/4.0

SKILLS

Programming:
Python, Java, C, Javascript,
R, SAS, SQL, Unix, Tableau

Technical:
Machine & Deep Learning
Time Series Forecasting
Reinforcement Learning
Natural Language Processing
Unsupervised Learning
Computer Vision
Experimentation (A/B testing)
Bayesian Statistics
Recommendation System
Data Pipeline & ETL
Algorithm & Data Structure
Payment/Credit Risk
Trust & Safety / Data Privacy
Fraud/Anomaly Detection

LANGUAGES

English   (Native/Fluent)
Korean   (Native/Fluent)
Chinese (Intermediate)

EXPERIENCE

Meta Platforms (Facebook)   **Menlo Park, CA**
Research Data Scientist   Jan 2022 - Present
- Data science lead in the anti-scraping team, leading MLE and DS to build ML systems that label, detect and action on 20M+ scraping sessions daily at scale
- Initiated and drove partnerships across five teams to jointly mitigate unauthorized access to user data, surpassing org's multiple topline goals:
  - Developed ML classifiers that detect 15M+ scraping sessions daily with 95% precision, boosting detection volume by 10x and exceeding annual stretch goal for detection recall.
  - Created new rules that label 25M+ scraping sessions daily with 90%+ human review precision, surpassing annual stretch goal for label recall by 20% only within a month
  - Modified model architecture of the contextual multi-armed bandit system that selects optimal responses to scrapers, reducing normalized MSEs of ridge regression models by 40%+ and preventing out-of-memory issue.
- Prevented 300K benign DAUs from experiencing user friction daily (20% of org false positive budget and 50% of existing FPs) without compromising true positives, by proposing an alternative way of how ML classifiers should use input labels for model training and leading the migration effort.
- Freed up the org's user appeal budget by 30% by applying topic modeling (LDA) to more accurately attribute appeal reports to the org's intervention system. Defined the success metrics and project roadmap, mentored MLEs for successful implementation, and established partnership with Appeal Ops team to validate the accuracy of the new attribution logic.

Paypal, Inc.   **San Jose, CA**
Senior Data Analyst   May 2021 – Jan 2022
- Directly Responsible Individual (DRI) of Venmo P2P G&S seller risk policy ($2B annual TPV), reduced annual fraud loss by $2M with 95% accuracy by building loss mitigation strategies from scratch based on anomalous transactional and cashout patterns.
- Spearheaded the application of topic modeling algorithms (LDA/GSDMM) on millions of raw Venmo payment memo data to identify common risky keywords, even influencing partner team's (Venmo Business Profile) strategies and saving additional $1M annually.

Wells Fargo & Company   **San Francisco, CA**
Data Scientist (Consumer Credit Associate)   June 2019 – May 2021
- Detected key changes in customers' business card usage behaviors based on credit line size by analyzing randomized line assignment test (A/B testing) result using Welch's ANOVA and post-hoc analysis.
- Developed Random Forest models to optimize credit line assignment strategy for business card. Increased annual commitment by 10%, purchase volume by 10% and balance by 8%, while maintaining the same loss rates.
- Reduced annual fraud loss by $1M+ while only disrupting 0.2% of relevant transactions by identifying common fraud patterns, performing feature engineering, and implementing payment float and transaction decline rules.
- Developed and took full ownership of dashboards for org-level reporting of key performance metrics. Analyzed and provided explanations for millions of customers' product usage behaviors in-depth to org leadership.