

R. Paul Fornia

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I am a Machine Learning expert, Software Engineer, and former Data Scientist, currently working on detection and prevention of scam on Facebook Marketplace. I have served many different industries and worked on a wide variety of ML use cases.

TECHNICAL SKILLS

- Expertise – **Python, SQL, Machine Learning, Data Science/Analysis**
- Professional Experience – PyTorch, Tensorflow, AWS, Git, Spark, Statistics, Linear Algebra, R
- Classroom Experience – RL, AI Safety/Alignment, Computer Vision, NLP/LLMs

WORK EXPERIENCE

Meta – Senior Software Engineer, Machine Learning (2021 – Present)

- Currently on the Facebook (FB) **Marketplace Integrity anti-scam team**
 - I create and maintain Spam Folder triaging methods that stops hundreds of thousands of inauthentic messages per day, **preventing millions of dollars of scam against users each month**
 - Implemented a novel technique for identifying scammers whose claimed and actual location do not match. I incorporated the signal into multiple levers in Marketplace Integrity, with significant, demonstrated impact on scammer identification, and it is now being used by multiple teams across Meta.
 - I was the Engineering lead (supporting 6 engineers plus 10+ partners and stakeholders) for a short-term, intensive sprint where we successfully blocked the vast majority of seller scammers in one country as proof-of-concept of several experimental tools. We are now expanding many of these ideas into new markets or as full global launches.
 - In addition to helping guide the direction of several projects on our team, my individual contributions have led to tens of percent of measurable decrease in scam volume across Marketplace
- Was the owner of a large feature (100M+ daily impressions) that supported the FB group ecosystem by providing personalized recommendations of lesser-known groups
 - The feature increased the number of FB Groups with sustainable levels of engagement by hundreds of thousands (my contributions increased this effect by 5%)
 - Increased click rate by 10%
- Supported FB's comment-writing assistant system
 - Improved filtering to increase system-wide coverage by 3%, resulting in millions of additional comments made daily
 - Integrated this ML infrastructure into FB's Birthday Center

FINRA (Contractor via Tential) – Data Scientist (2020 – 2021)

- Developed and tested novel Deep Learning market surveillance models using Tensorflow/Keras
- Extracted useful, model-ready datasets using PySpark
- Queried from petabytes of data – approximately 100B records per day
- Focused on deployment, preparing pipeline for highly scaled production environment
- Built beautiful, interactive visualizations to display model output for business users

TPC Energy Fund – Lead Data Scientist (2020)

- Provided highly accurate forecasts of returns and volatility of the wholesale power market using machine learning
- Optimized portfolios across thousands of trades using industry best-practices
- Implemented robust backtesting systems to measure performance and risk
- Customized industry standard solutions to fit nuanced financial situations

DataRobot – Customer Facing Data Scientist (2019 – 2020)

- Provided pro bono services to social impact organizations under AI for Good Program
- Led five high-value accounts as primary Data Scientist
- Scoped and developed machine learning use cases for maximum ROI and impact
- Executed machine learning projects from framing to modeling to deployment
- Supported sales team by demoing DataRobot to executives and at trade shows
- Represented the AI For Good program externally in media interviews

Deloitte – Senior Consultant and Data Scientist (2014 – 2019)

- Developed Machine Learning, Optimization, Recommenders, and UI solutions
- Led team of four full-time consultants and data scientists
- Managed complex software development lifecycle
- Developed and led internal and external trainings in Data Science

Federal Reserve Board of Governors – Senior Research Assistant (2012 – 2014)

Financial Studies | Research & Statistics

- Contributed analysis to support original policy and academic research
- Managed data sets, models, and visualizations

EDUCATION

Johns Hopkins University (2020)

MS – Computer Science

University of Colorado Boulder (2012)

BA – Economics—Magna cum Laude

BS – Applied Mathematics—Computational Economics Emphasis

AWARDS and CERTIFICATIONS

- **Kaggle “Competitions Expert”** – Highest Rank: 759th/180K globally
Jane Street Market Prediction ML Competition – Silver Medal – top 1% (2021)
Microsoft Indoor Navigation ML Competition – Silver Medal – top 3% (2021)
- **Amazon Web Services** – Certified Cloud Practitioner (2018)
- **University of Washington** (via Coursera) – Specialization in Machine Learning (2017)
- **Johns Hopkins University** (via Coursera) – Specialization in Data Science (2015)
- **The George Washington University** – Graduate Certificate in Financial Math (2014)

PUBLICATIONS

Cheong, S.A., **Fornia, R.P.**, Lee, G.H.T., Kok, J.L., Yim, W.S., Xu, D.Y. and Zhang, Y., 2012. The Japanese economy in crises: A time series segmentation study. *Economics*, 6(1).