Alec Stashevsky

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Applied machine learning scientist with experience developing, deploying, and maintaining industrial grade machine learning pipelines at scale. Expertise in deep learning, document AI, and fraud detection at the crux of computer vision, natural language processing, and graph machine learning. Statistician and recovering consultant from finance and energy. Hiker, birder, potter.

PROFESSIONAL EXPERIENCE

Applied Scientist / Fetch (10/2022)-Present

- Develop world-class document AI technology powering the core of the Fetch app used to extract information from +10 million receipts in real-time every day.
- Core contributor and technical leader for Fetch's largest product launch to date with over $200M in revenue attributable to our core document AI technology.
- Research, build, and productionalize deep neural networks touching computer vision, natural language processing, and graph machine learning.
- Pre-training and fine-tuning of large language models (LLMs), vision encoder-decoders, and graph neural networks.
- Engineering team member supporting AI/ML microservices, model compilation, edge device models, and serving optimizations.

Tech Lead / Fetch (10/2022)-Present

- Lead a team of 15+ scientists across the entire organization.
- Lead efforts with industry leading cloud-providers to onboard cutting-edge AI/ML technology including distributed compute resources, graph databases, experiment and production monitoring.
- Build out data labelling and collection efforts from the ground-up to support computer vision and large language modelling efforts.
- Lead collaborations with open-source AI/ML frameworks including Hugging Face, PyTorch, PyTorch Geometric, AWS SageMaker, and Streamlit.
- Advise big graph machine learning initiatives around fraud detection, anomaly detection, and recommender systems.

Research Data Scientist / Fetch **(10/2021)-(10-2022)**

- Research and develop document understanding models including CNNs and Vision Transformers for optical character recognition, large language transformers, and graph neural networks for named entity recognition and key information extraction.
- Use tools like PyTorch, Hugging Face, PyTorch Geometric, scikit-learn, SQL, R, Docker, AWS and Snowflake.

Associate Analyst / NERA Economic Consulting **(09/2020)-(09/2021)**

- Look inside the books of some of the largest financial institutions in the world to estimate damages and predict the performance of complex financial instruments leading to the largest and most severe banking crises, securities fraud, and market-meltdowns humans have witnessed.
- Build probabilistic financial models using advanced techniques including Markov chain Monte Carlo methods, random matrix theory applications, and stationary time-series forecasting.
- Identify, explain, and value litigation involving mortgage-backed securities (RMBS), collateralized debt obligations (CDOs), swaps, and other derivatives underpinning trillions of dollars in assets.
- Provide evidence and economic investigation for Fortune 500 companies, SEC, DOJ, and FINRA.

Research Analyst / The Cadmus Group **(11/2019)-(09/2020)**

- Lead the design and evaluation of demand-side management programs, including a $600k+ randomized control trial on smart thermostat direct load-control.
- Forecast electric vehicle diffusion, demand elasticity, and electrification for budgeting hundreds of millions of dollars under diverse energy industry clients' management.
- Design difference-in-difference models, demand-elasticity programs, and causal inference mechanisms to provide gold-standard reporting to regulators and operators responsible for most of the United States energy supply.

Data Scientist/ Kyrgies **(10/2019)-(07/2020)**

- Lead a project investigating optimal advertising strategies for an online retailer by supplementing web analytics and operations resources to perform novel Geo-spatial analysis, market research, and ultimately lead generation.

Data Scientist Intern/ KWM Wealth Advisory **(07/2019)-(10/2019)**

- Build internal dashboards for a boutique wealth advisory firm using R and Shiny to help advisors aggregate and contextualize regulatory stances during bear-markets.

PUBLICATIONS AND TALKS

- Assessing Strategies to Reduce the Carbon Footprint of the Annual Meeting of the American Academy of Ophthalmology. *JAMA Ophthalmology*, August 2023. doi:10.1001/jamaophthalmol.2023.3516
- Presenter, "Production Graph ML at Fetch." *PyTorch Geometric Town Hall*, January 2023. (recording)
- Teaching to Our Time: a Survey Study of Current Opinions and Didactics About Climate Mental Health Training in US Psychiatry Residency and Fellowship Programs. *Academic Psychiatry*, July 2022. doi:10.1007/s40596-022-01680-7
- Estimation of the Carbon Footprint Associated With Attendees of the American Psychiatric Association Annual Meeting. *JAMA Network Open*, January 2021. doi:10.1001/jamanetworkopen.2020.35641
- Domestic Remittance in China: Rural-Urban Migration's Trail of Inequality. *Chinese Institute of Income Distribution, Beijing Normal University and Reed College,* May 2019. doi:10.13140/RG.2.2.19035.90405/1

ORGANIZATIONS

AI Research Scientist / Graphaite **(03/2022)-Present**

- Graphaite is an independent AI research collective made up of a diverse team of researchers and practitioners from around the globe. Graphaite was born out of a passion for graph neural networks and their applications.

Statistician / Group for the Advancement of Psychiatry, Climate Committee **(06/2020)-Present**

- GAP is a think tank of top psychiatric minds whose thoughtful analysis and recommendations serve to influence and advance modern psychiatric theory and practice. I serve as a resident statistician supporting climate-related research (*see* publications above).

OPEN-SOURCE SOFTWARE DEVELOPMENT

- Author and maintainer of {**blocklength**}, an R package for advanced statistical analyses of time-series and other dependent data with *over 12 thousand downloads*. {blocklength} provides tooling to optimize the block-length parameter of a dependent bootstrap procedure (the block-bootstrap) commonly used in time-series modelling. Available on CRAN and at my GitHub.

EDUCATION

B.A. Mathematics-Economics / Reed College, Portland OR