

Jeremy Oldfather

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PROFILE

Principal Data Scientist with 19 years of experience across research, data science, software engineering, and financial economics including a top-10 economics publication and contributions to the Amazon ML Conference (AMLC). Specialist in designing and delivering custom-fit forecasting and dynamic pricing solution using novel deep learning architectures. Impact-oriented back-solver with the ability to distill business objectives and refine business requirements concurrently with rapid research and development to build novel solutions.

EXPERIENCE

Chronulus AI Inc.
Stealth Startup
Founder & President

Brooklyn, NY
Jan 2024 – Present

Amazon
SCOT | Forecasting Science | ASIN Forecasting
Senior Data Scientist (L6)

New York, NY
Aug 2022 – Jan 2024

Responsible for the science and production operation of the neural forecasting architecture (MQTransformer) that vends demand predictions for each of Amazon Retail's 200+ million first-party products world-wide.

AWS
ProServe Intelligence | AI/ML
Senior Data Scientist (L6)

New York, NY
Nov 2021 – Aug 2022

First data science IC promoted from the AI/ML team since it was formed in 2019. Specialize in designing and delivering custom-fit forecasting and dynamic pricing solution using novel deep learning architectures.

ProServe Intelligence | AI/ML
Data Scientist (L5)

Aug 2019 – Nov 2021

Lead on 6 customer-facing projects with Novartis, Nationwide, BP p.l.c., Bridgestone, and Best Western. Use cases spanned NLP, forecasting, signal processing, computer vision, and price optimization. Specialist in deep learning research and solutions for time series.

Earnest Research
Data Classification & Quality
Senior Data Scientist

New York, NY
Jan 2019 – Jun 2019

Led a new machine learning team. Hired, coordinated team members and priorities in order to expand machine learning operationalize processes that I designed over the previous 6 months.

- **Leading development and deployment of deep learning architecture for entity linking**
Collaborate with data scientists and engineers in Dublin office to build the infrastructure needed to deploy our deep learning system into production. (Tensorflow, Spark, Kubernetes)

Research & Development
Data Scientist

Sep 2017 – Dec 2018

Conducted deep learning research, evaluation of alternative data sources; developed new products and enhancements to the current product offering.

- **Planned and implemented a deep learning framework to automate and scale multiple processes**
The framework includes the following reusable components: data transformation in Tensorflow; distributed model training, validation, and prediction; a custom UI for moderating/annotating results; and a sandbox for modeling and serving embeddings. (Tensorflow, Spark, EMR, ScalaFX)
- **Mathematical and statistical modeling**
Derived sensitivity analysis, provided mathematical intuition for the impact of attrition and other biases. (Pen, Paper, Latex)
- **Developed a scalable nearest neighbor solution for text similarity**
Identifies merchants in billions of transaction descriptions using a metric space data structure. (Scala, Spark, EMR)
- **Evaluation of alternative datasets**
Evaluated and presented analyses on offerings from multiple geolocation providers. (Spark, Zeppelin, EMR)

Federal Reserve, Board of Governors
Current Macroeconomic Conditions (CMC)
Financial Data Scientist

Washington, DC
Nov 2016 – Aug 2017

Developed machine learning infrastructure and algorithms for forecasting macroeconomic conditions from high dimensional datasets composed of millions of real-time and historical financial time series.

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- **Designed and developed novel persistent time series data structure.**

Enables the storage of 25TB of time series vintages while maintaining sub-millisecond retrieval. Replaces 1980s data infrastructure based on FAME time series database. (Java, JNA, C, PostgreSQL)

Systemic Financial Institutions and Markets (SFM)
Financial Data Scientist

Sep 2013 – Aug 2017

Supported the data science, software, and data infrastructure required for the Board's policy and academic research in the areas of systemic risk, complexity, and liquidity.

- **Published in Top 10 finance journal using natural language processing and causal inference.**

Research included surveying NLP literature to develop a measure of sentiment expressing uncertainty. (R, Python)

- **Independently developed a network analysis approach to systemic risk surveillance.**

Originally published on *federalreserve.gov*, this methodology is now regularly featured in the confidential Quantitative Surveillance report presented to executives at the Federal Reserve. (Python, R, Gephi)

Financial Studies (FIN)

May 2012– Sep 2013

Research Assistant (1 yr) & Senior Research Assistant (3 mo)

Supported academic research and trained junior research assistants.

Reusser Design

Software Engineer

Roanoke, IN

May 2006 – Jul 2010

Responsible for the full product development life-cycle of 40+ web sites as well as client-facing training and support.

Visibility Media

Founder

Huntington, IN

Aug 2005 – Sep 2008

RESEARCH & PUBLICATIONS

J. Zhu, J. Oldfather, P. Jothikumar

Multilingual adverse event detection for regulated product safety monitoring

Amazon Machine Learning Conference

October 2021

S. Gissler, J. Oldfather, D. Ruffino

Lending on Hold: Regulatory Uncertainty and Bank Lending Standards

Journal of Monetary Economics

June 2016

J. Oldfather, S. Gissler, D. Ruffino

Network Complexity and Resolvability of G-SIBs

FEDS Notes

July 2016

Additional research assistance, data engineering, data analysis, and project coordination on multiple quantitative finance research projects including 5 that resulted in publications in Top-10 economics journals. (AER (2), QJE, JF, JFE)

EDUCATION

Georgetown University

Master of Science (MS) | Mathematics & Statistics

Washington, DC

Jan 2013 – Dec 2015

Concentration in Machine Learning and PhD coursework in Econometrics while working full-time at Federal Reserve

Indiana University

Bachelor of Arts (BA) | Economics, Mathematics, Russian Lang. & Lit.

Bloomington, IN

Aug 2008 - Aug 2011

Triple major completed in 3 years

Taylor University

Computer Information Systems

Fort Wayne, IN

Aug 2003 - May 2005

Studied object-oriented Java programming, data structures, and algorithms