

# Parsa Torabian

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## ABOUT

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Passionate about building exceptional teams and cultivating a strong, forward-thinking vision. Skilled in research, advanced modeling, and data product development. Striving to apply creative thinking and unique insights in the financial industry.

## TECHNICAL SKILLS

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### Programming Maturity:

Python (expert), SQL, Java, Scala, C++

### Data Domains:

Donation transaction data, high-frequency sensor data, survey data, medical imaging data, 3D spatial/tracking data, neuromuscular/neuroimaging data, insurance data, legal documents

### Analysis Techniques:

Computer Vision, Meta-Learning, Simple/Complex Regressions, Signal Processing, Time Series Analysis, Tree-models

### Frameworks:

PyTorch, PySpark, Sklearn, Scipy, StatsModels

### Systems:

AWS, Spark, Databricks, Slurm, Docker, Hadoop, Redis

## WORK EXPERIENCE

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### Lead Data Scientist

Sept 2021 – Present

*GivingTuesday*

*Remote, United States*

- Recruited and led a technical team of 8 responsible for a broad portfolio of data products.
- Scoped, advised, and led research regarding non-profit finances and fundraising.
- Developed technical processes, validation, and best practices.
- Coordinated priorities with internal/external stakeholders; cross-functional coordination.
- Highlight #1: The FEP State of the Sector Report. It is the only quarterly report capturing non-profit fundraising trends. The project is one of a kind in the sector, and one of the key accomplishments is bringing together industry stakeholders to share their data and analysis. It includes monthly time series of various dollar, donor, and retention metrics.
- Highlight #2: GivingTuesday 2021 Lookback Report. A summary of the Data Team's work in 2021, showcasing some of our survey and financial analyses. This document ended up being essential in securing additional funding for the team.

### Data & Tech Consultant

May 2020 – Aug 2021

*Red Oak Technologies*

*Toronto, Canada*

- Modernized tooling used by telecommunications engineers.
- Nurtured tech and data literacy within the organization; helped bridge the gap between traditional electrical engineering tools and modern optimization techniques.
- Designed and owned new cloud-based centralization of engineering tools.
- Removed senior engineers as blockers by partially-automating their approval processes.
- Secured proprietary algorithms by moving them to cloud-based APIs, rather than on-prem scripts.

### Research Intern

Feb 2020 – Aug 2020

*Vector Institute*

*Toronto, Canada*

- Research intern at Dr. Marzyeh Ghassemi's lab, worked on few-shot learning and meta-learning for medical imaging classification.
- Work shared at NeurIPS 2020 workshop and published at PMLR 2022.

**Data Scientist***Capital One*

Sept – Dec 2019, May – Aug 2020

*Toronto, Canada*

- Built internal tooling for GBM/GLM model training, pre-processing, validation, and visualization.
- Work deployed as Python package which was adopted by data scientist across all business verticals.

**Data Science Intern***IBM*

Jan – Apr 2019

*Toronto, Canada*

- Experimented with NLP tools to assess feasibility of automated legal document processing.
- Reported that existing tools at the time were not sufficiently expressive.

**Data Science Intern***Intelligent Mechatronic Systems*

May – Aug 2018

*Toronto, Canada*

- Assisted in developing algorithms for processing high-frequency sensor data.
- Results incorporated into downstream reporting to automobile insurance companies.

**Software Developer Intern***Bombardier Aerospace*

Sept – Dec 2017

*Toronto, Canada*

- Rebuilt a web-based aerospace experiment catalogue in PHP and React.
- Improved experiment indexing speeds by up to 1400%, allowing a "live" view of experiments and their results, compared to nightly refreshes.

**Software Developer Intern***Sunnybrook Research Institute*

Jan – Apr 2017

*Toronto, Canada*

- Built a web-based medical imaging viewer using full-stack Javascript
- Application was used by hospital staff for image indexing and annotation

**Software Developer***Holmusk*

May – Aug 2016

*Singapore, Singapore*

- Helped develop a node-js based chat-bot for user support on a dietetics platform.

**iOS Developer***Glocalspace Inc*

May – Dec 2015

*Toronto, Canada*

- Helped build and test a commercial point-of-sales app using Objective-C
- Built an SQLite object visualizer tool into the app to streamline QA-Developer debugging.

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**RESEARCH EXPERIENCE****Conference Paper @ PMLR 2022: International Conference on Medical Imaging with Deep Learning***TorchXRyVision: A library of chest X-ray datasets and models*

- Joseph Paul Cohen, Joseph D. Viviano, Paul Bertin, Paul Morrison, Parsa Torabian, Matteo Guarrera, Matthew P Lungren, Akshay Chaudhari, Rupert Brooks, Mohammad Hashir, Hadrien Bertrand

**Workshop Paper @ NeurIPS 2020: Medical Imaging Meets***Multi-Label Incremental Few-Shot Learning for Medical Image Pathology Classifiers*

- Laleh Kalantari, Karsten Roth, Mengye Ren, Parsa Torabian, Joseph Cohen, Marzyeh Ghassemi

**Conference Paper @ CVIS 2020***Comparison of Foveated Downsampling Techniques in Image Recognition*

- Parsa Torabian, Ronak Pradeep, Jeff Orchard, Bryan Tripp

**Poster @ NAISys 2020***Simulated environment for naturalistic mouse models*

- Yinghan Chen, Parsa Torabian, John Mielke, Graham Taylor, Bryan Tripp

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**EDUCATION****University of Waterloo***Masters of Applied Science in Systems Design Engineering*

Waterloo, Canada

2020 – 2023

**University of Waterloo***Bachelor of Applied Science in Electrical Engineering*

Waterloo, Canada

2016 – 2020