




Zarreen Naowal Reza

 zarreen.naowal.reza@gmail.com

 linkedin.com/in/zarreenreza

 <https://ai-diary-by-znreza.com/>



 <https://github.com/znreza>

Summary

- Data Scientist experienced in machine learning, privacy-preserving AI (PPAI), MLOps, ELK, AWS, Kubernetes
- Strong research background in Machine Learning and Deep Learning in computer vision
- Apt in Python, PyTorch, Tensorflow, PySyft
- Privacy-preserving AI content creator and open-source contributor at OpenMined
- Honorable Mention in NASA Space Apps Challenge 2020
- 3rd winner in Thales Student AI Innovation Championship 2018 out of 52 teams across Canada
- Participation in prestigious 3-minute Thesis Competition
- Extremely self-motivated, organized, and hard-working
- Tutoring, leadership, and mentorship experience
- Succeed both as a team and solo independent performer as per need
- I blog in my website at ai-diary-by-znreza.com

WORK EXPERIENCE

Volta Charging

Nov. 2021–Present

AI Research Scientist

Montreal, QC

- I am working at the intersection of data science, applied machine learning using cutting-edge technology and doing high-quality research to produce innovative ML solutions for EV charging stations.
- Leading and co-leading multiple research and deployment projects directly impacting company revenue

Thales Canada Inc., Guavus

Sep. 2019–Nov. 2021

Data Scientist

Montreal, QC

- As part of core data science duties, I accomplished the following
 - Successfully developed and delivered multiple proofs-of-concepts (PoC) including root issue analysis with probabilistic graphical models, user mobility prediction using Markov chain, alarm noise reduction analysis using graph similarity
 - Helped customer success team build deal-closing product demo using Elasticsearch and Kibana dashboard
 - Quickly implemented cutting-edge machine learning algorithms proposed in research papers including causal inference, Bayesian network, gaussian mixture model, graph similarity which resulted in drastic performance improvement
 - Other machine learning algorithms include SHAP AI explainer, Decision Trees, Xgboost etc
- As part of MLOps duties, I accomplished the following
 - Developed the company's first end-to-end ML orchestration pipeline of machine learning PoC starting from development till deployment at scale and continuous monitoring

- Built a full-fledged prototype of MLOps at scale using Docker, Kubernetes, Argo, MLflow, Kubeflow, Seldon Core, AWS Lambda, Prometheus, Grafana which has been adapted by all the engineering teams for upcoming PoCs
- Performed thorough analysis of various MLOps frameworks in market that helped the company design the most suitable MLOps architecture
- Write production-ready code that complies with software development coding best practices and test-driven data science practice following agile methodology
- Mentor interns, work collaboratively with researchers, engineering, DevOps and Customer Success team

OpenMined

Mar. 2020 – Present

Privacy-Preserving AI Research Engineer, open-source

Remote, Global

- Ongoing projects include
 - Privacy-preserving end-to-end encrypted deep learning model for mental health disease detection from fMRI images using Differential Privacy, Federated Learning and Secure Multi-party Computation (SMPC)
 - Private Deep Learning of Medical Data for Hospitals using Federated Learning and Differential Privacy (Presented in [PriCon 2020](#))
- Publications
 - [PySyft: A Library for Easy Federated Learning - Studies in Computational Intelligence, SpringerLink](#) (June, 2021)
- Course content design and development for Private AI Series funded by FacebookAI, PyTorch and University of Oxford
 - [Federated Learning course](#) – In this lesson, I taught about how to use federated learning to access and manipulate data on remote devices using PyTorch and PySyft. Students get to practice hands-on coding with PyTorch based privacy-preserving AI libraries to analyze data and train a deep learning model. Course codes are available [here](#).
- Core technologies include PySyft, PyTorch, diffprivlib (DP library by IBM), Tensorflow-Federated
- Other roles include writing blogs, mentoring, organizing bootcamps, advising education team etc.

Women Who Code (WWCode)

Jul. 2021 – Present

Leadership Fellow, Aug 2021 – Sep 2022

Remote, Global

- Lead, grow and strengthen track communities
- Support key program areas of WWCode
- Lead program design and build technical content for online track events including webinars, workshops, hands-on coding tutorials, career growth etc.
- Create program toolkits that include easy-to-execute technical content that can be delivered in person by other WWCode volunteers
- Public Speaking
 - [Privacy-preserving AI – Perform Data Science on Data you cannot see](#), presented in WWCode global conference called CONNECT Reimagine 2021

EDUCATION

University of Windsor

Graduated on May 2019

Master's degree (Thesis), Computer Science

Windsor, ON

- Master's dissertation [Real-time Automated Weld Quality Analysis from Ultrasonic B-Scan using Deep Learning \(May 1, 2019\)](#) got nominated for Governor General's Gold Medal by Faculty of Computer Science
- Worked as Research Assistant in IDIR for developing the first-ever AI-powered automated spot weld detection technology using deep learning partnered with BMW, Toyota and NarmCo.
- Hired as Graduate Teaching Assistant and Lab Tutor during throughout the study
- 3rd Winner in Thales Student AI Innovation Championship 2018 out of 52 teams across Canada

AWARDS

- Highly Qualified Personnel (HQP) - NSERC Create oN DuTy!
- Director's Honor Roll - Director, School of Computer Science, University of Windsor
- Governor General's Gold Medal (Nominee) - University of Windsor
- Going Beyond and Above in Research Award (Nominee) - University of Windsor
- Ambassador Award (Nominee)

SKILLS & INTERESTS

- **Soft Skills:** Pro-active, creative, friendly, love to help others, analytic reasoning, hard-working, disciplined, mentorship, leadership, management
- **Interests:** Yoga and Pilates, chess, cooking new dishes, climate change, astrophysics, philosophy, connoisseur of music, exploring unsolved true events