# ROMAN BURAKOV

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## WORK EXPERIENCE

**Coinbase** — *Toronto, Canada*
Machine Learning Engineer — Nov 2023 - Present

- Deployed ML model for auto-scaling datastores, **saving \$2M annually** with zero downtime [blog]
- Optimized internal deep learning framework using distributed training (**Ray**), enabling 100x larger datasets, 3x faster training, and up to 25% accuracy gains across four teams [blog]
- Implemented **TensorRT inference optimization**, achieving **12-16x model speedup** in serving

**Metaverse Mind Lab** — *Toronto, Canada*
Machine Learning Engineer — Sep 2022 - Nov 2023

- Simplified **cloud infrastructure**, reducing deployment time by 50%, securing two enterprise contracts
- Built a real-time **question-answering** system for VR training, directly supporting \$3M+ in new business
- Developed core product by integrating **LLMs** and **scene graphs** into a novel **3D scene generation system**

**University of Toronto — Vector Institute** — *Toronto, Canada*
Machine Learning Research Engineer — May 2022 - Aug 2023

- Improved bionic leg control accuracy (RMSE) by 20% and achieved **20x faster inference** by developing a novel **sensor-fusion architecture** with optimized serving via **TensorRT** [paper][github]
- Increased accuracy (BERTScore) of **speech decoding** from invasive **brain implants** by 10% by fine-tuning **LLMs** on neural data [paper]

**Czech Technical University in Prague** — *Prague, Czechia*
Deep Learning Engineer — Feb 2022 - Sep 2022

- Designed novel **multi-modal architecture**, improving precipitation nowcasting accuracy by 6%
- Built **anomaly detection** pipeline for car pricing, reducing pricing error (MAE) by 18%

**Fozzy Group** — *Kyiv, Ukraine*
Machine Learning Engineer — Mar 2021 - Mar 2022

- Addressed **cold-start forecasting** by developing a **general embedding model** for 700K+ retail products
- Built MVP for **next-basket recommendation engine**, currently serving over 1M users across Ukraine
- Improved **supply planning** accuracy (MAE) by **15%** through enhancements in **sales forecasting** models

## EDUCATION

**Bachelor of Computer Science**, National University of "Kyiv-Mohyla Academy" — *Kyiv, Ukraine*
Relevant courses: probability theory, calculus, linear algebra, discrete math, advanced graph theory

## SELECTED PUBLICATIONS

**Roman Burakov**, Nadyia Shvai, and Bo Wang - *Decoding Speech from Electrocorticography with Large Language Models* - Bachelor's Thesis, NaUKMA 2023 [paper]

Oleksii Tsepa*, **Roman Burakov**\*, Brokoslaw Laschowski, and Alex Mihailidis - *Continuous Prediction of Leg Kinematics during Walking using Inertial Sensors, Smart Glasses, and Embedded Computing* - ICRA 2023 [paper][github]

**Roman Burakov** and Tatiana Levitskaya - *Automated Processing of Classical Piano Pieces Using a Siamese Neural Network* - Science and Industry, PSTU 2018 [paper]

## SKILLS

**Stack**: Python, Go, SQL, PyTorch, TensorRT, Ray, Scikit-learn, Spark, Databricks, AWS, Docker, Kubernetes
**Expertise**: Deep Learning, Recommender Systems, Tabular Data, Computer Vision, NLP