# NISAL PERERA

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## PROFESSIONAL EXPERIENCE

**Machine Learning Engineer**  Mar 2023 - Present
**Expedia Group, Seattle (Remote)**
- Develop and deploy highly scalable models for price forecasting and price context prediction.
- Migrated legacy models into K8 based BentoML model deployment platform reducing operational costs and model response latency.
- Integrated and optimized a DynamoDB Feature Store for realtime feature look up at inference.
- Utilized GitHub Actions and Spinnaker to automate model deployment and CI/CD pipelines.

**Sr. Machine Learning Engineer**  Jan 2021 – Feb 2023
**Telus Communications Inc., Toronto**
- Built a fraud model to prevent 20% of in store device fraud resulting in $4M savings annually.
- Debugged and fixed production models using data drift analysis and model monitoring tools.
- Developed propensity models for various churn, up-sell, cross-sell Telus marketing campaigns.
- Increased team efficiency by migrating ML workflows to Vertex AI and BigQuery on GCP.
- Worked with business stakeholders to identify and prototype new AI initiatives in the company

**Data/ML Engineer**  Jan 2018 – Dec 2020
**The Weather Network, Oakville**
- Built an end-to-end predictive system to estimate ad click-through rate (CTR) using XGBoost.
- Implemented a behavioral segmentation algorithm in PySpark ML for personalized ad targeting.
- Developed ETL pipelines in Google Dataflow to process billions of geospatial data points daily.
- Modelled data in Elasticsearch and Redshift databases to meet real-time querying requirements.
- Implemented Python Flask back-end microservices using AWS Lambda/API Gateway/Zappa.
- Maintained an Apache Airflow server for coordinating and scheduling ETL pipeline jobs.

**Data Science Engineer**  May 2017 - Dec 2017
**Rubikloud Technologies Inc., Toronto**
- Worked with data scientists to build a personalized retail product recommendations model.
- Developed scalable machine learning and data processing pipelines in PySpark on AWS EMR.
- Productized machine learning models into robust production-grade systems using Luigi.
- Deployed machine learning solutions on AWS cloud services using Docker containerization.
- Built an automated testing and validation tools for verifying the quality of model predictions.

## EDUCATION

**MSc in Applied Computing**  Sep 2016 – Dec 2017
University of Toronto
**Thesis**: Using machine learning to optimize a cloud workflow management system.
**Awards**: Mitacs Accelerate Fellowship Grant ($15,000)

**BASc Computer Engineering, Honours**  Sep 2011 – May 2016
University of Toronto
**Awards:** Dean's Honours List, University Entrance Scholarship