

Tom Stesco

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PROGRAMMING

EXPERT

Python

PROFICIENT

C++ • SQL • Bash

PRIOR EXPERIENCE

Java • Javascript

TOOLS

Airflow • Spark • PySpark

PyTorch • PyMC3 • XGBoost

Numpy • Pandas • SKlearn

MySQL • BigQuery • Datastore

Kafka • PubSub • Protobuf

Docker • Kubernetes • Terraform

GCP • AWS • Azure

GNU/Linux • Git

EDUCATION

ETH ZURICH

MSc INTEGRATED BUILDING

SYSTEMS

Excellence Scholar

Oct 2018 | Zurich, Switzerland

UNIVERSITY OF WATERLOO

BASC HONOURS CIVIL ENGINEERING

Merit Scholarship

Jun 2016 | Waterloo, Canada

COURSEWORK

GRADUATE

Model Predictive Control

Mathematical Optimization

Computational Physics

Building Control and Automation

Computational Fluid Dynamics

Renewable Energy Technologies

Technology and Innovation Management

Innovation Leadership

Social Networks Research

UNDERGRADUATE

Software Engineering Design Project

Building Science

Bioprocess Engineering

Advanced Calculus

Probability and Statistics

Linear Algebra

EXPERIENCE

BCG X | SENIOR AI/ML ENGINEER

May 2022 – present | Toronto, Canada

- Led MLOps for production ML pricing models in >\$10 billion/yr eCommerce system: code review (team of 5), test planning and validation, CI/CD, release management, monitoring, and on-call.
- Development of ETL and ML model training pipelines using Spark and Airflow.
- Reviewed ML modeling code and literature for deep learning (PyTorch) and tree-based methods (XGBoost).

ECOBEE | SENIOR DATA SCIENTIST

Jun 2021 – May 2022 (1 year) | Toronto, Canada

- Led development of edge IoT device convex optimization of ML models for Model Predictive Control in C++ resulting in patent application.
- Accelerated ML modeling iteration cycle time from weeks to days by automating MLOps: preprocessing, training, validation, and deployment.
- Led external research collaborations with 4+ academic groups and 2 industry partnership research projects on ML driven controls and simulation software.

ECOBEE | DATA SCIENTIST

Oct 2018 – Jun 2021 (2 years, 8 months) | Toronto, Canada

- Scaled internal IoT experimentation platform from 0 to 150k+ devices running 10+ experiments simultaneously by automating build, deployment, monitoring, and metrics with C++, Python, PubSub, and Protobuf.
- Led development of ML driven controls simulation platform, including open sourcing building-controls-simulator, a Python library for HVAC control algorithm performance testing and presented at the eSim2020 conference.

ENERGY PROFILES LIMITED | ENERGY DATA ANALYST

Sep 2015 – Dec 2015 (4 months) | Toronto, Canada

- Developed SQL error detection model for equipment and input data for building energy submeter data.
- Added features and bug fixes to energy data ingestion pipeline in Java.

AECOM CANADA | CIVIL ENGINEERING STUDENT

Jan 2015 – Apr 2015 (4 months) | Markham, Canada

- Digitized workflow for water flow sensor team to remove toil of: data entry from paper forms, data validation, and generating reports for clients.

RESEARCH

AUTOMATIC CONTROL LAB | MASTER'S STUDENT

Sep 2017 – Oct 2018 | Zurich, Switzerland

- Worked with Prof. Dr. John Lygeros and Dr. Annika Eichler on Human-in-the-Loop building controls project combining Model Predictive Control and online Bayesian ML.
- Built Python library to model building thermodynamics and run coupled model training and simulation experiments on HPC cluster.
- Developed online Bayesian Linear Discriminant Analysis (LDA) classifier for thermal comfort using PyMC3 with an MCMC algorithm.
- Derived predictive model of occupancy probability in Python using Markov chains and change point detection algorithm.