

# PENNY AHLSTROM

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## Software Developer – Full Stack & Machine Learning

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### Highlight of Technical Skills

- Implemented and evaluated supervised **machine learning** models in Python (**scikit-learn**) for classification and regression (e.g., Iris, Reuters, Boston Housing), applying preprocessing, feature engineering, and validation (train/test splits, K-fold cross-validation)
  - Trained **neural networks** using **TensorFlow/Keras**, experimenting with architecture and hyperparameters (e.g., layer size, epochs)
  - Prepared datasets in **Python (pandas, NumPy)**, including normalization, reshaping, and feature structuring
  - Engineered **RESTful APIs** in **JavaScript** (Node.js, Express) for an employee management system including authentication, CRUD operations, and search functionality, integrated with MongoDB
  - Built **Java (Spring Boot) microservices** using RESTful APIs for inter-service communication, along with Docker containerization and integration testing (TestContainers)
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### Relevant Educational Experience

#### **Computer Programming and Analysis Advanced Diploma** **2023 – Present**

George Brown Polytechnic, Toronto

- Developing a full-stack **capstone application** featuring a **React frontend** and **Java (Spring Boot) microservices backend** with API gateway routing
- Produce well-structured, maintainable applications across multiple languages (**Java, C#, PHP, JavaScript, Python, Swift**), applying asynchronous programming and debugging techniques to support reliable system behavior

#### **Masters of Science, Cell Biology** **2012 – 2015**

York University, Toronto

- Applied statistical methods and introductory R tools to analyze biological data, supporting accurate interpretation of research findings
  - Conducted research recognized with a Thesis Prize nomination, applying strong analytical and problem-solving skills while collaborating with a wide range of research professionals
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### Relevant Professional Experience

#### **Full-Stack Developer (Volunteer)** **2026-Present**

Svenska Skolan Toronto

- Building a full-stack web application for a non-profit organization, implementing authentication and role-based admin tools for non-technical content management
- Automating Excel report generation for grant applications, reducing manual data processing

#### **Marketing Consultant (Project-Based)** **2015 – 2023**

RealEstateLawyers.ca LLP

- Streamlined Excel workflows to clean and structure large datasets (1,000+ records), reducing manual processing time by 40–50%

#### **Teaching Assistant (Part-Time)** **2012 - 2015**

York University

- Designed grading rubrics to standardize evaluation and reduce marking time by 20–30%