Junghoon Cho

LinkedIn | GitHub
junghoon.cho@mail.mcgill.ca

Short Introduction

I am a software engineer with two years of experience solving complex challenges. I am a problem solver who can turn intricate tasks into immediately implementable solutions that meet business needs.

Education

McGill University — Montreal, QC, Canada
BSc in Computer Science (major GPA: 3.4/4.0), minor in Statistics — *Sep '18 – Dec '25*

Korea University — Seoul, Republic of Korea
Completed coursework in Statistics (GPA: 4.0) — *Summer 2019*

Professional Experiences

Software Developer Engineer — Seoul, Republic of Korea
Full-time, military service — *Nov '22 – Jul '24*

- Built a custom lightweight database in C, handling 1,000+ daily transactions with optimized indexing and queries.
- Created automated testing frameworks (JUnit, C test suites), reaching 95% coverage and reducing defects by 30%.

Projects

Peer Review Platform (In Progress): Developing a web service for students and freelancers to outline projects and define collaborator roles upfront. Users can post project descriptions, specify required tasks, and receive feedback or volunteer reviews through an integrated dashboard.

Database Application for Event Management (McGill University): Developed a full-stack database application using Java + JDBC + DB2 with stored procedures, indexing, and data visualizations. Implemented a CLI app with 5+ interactive features and optimized queries using custom indexes.

BERT-based News Classifier (McGill University): Fine-tuned BERT on the AG News dataset for multi-class classification. Compared performance between probing (KNN, Logistic Regression) and end-to-end training, and visualized attention matrices to interpret predictions.

Neural Network from Scratch for Image Classification (McGill University): Implemented multilayer perceptrons and trained CNNs on the Kuzushiji-MNIST dataset. Compared architectures, activation functions, and regularization methods, achieving high test accuracy.

Colosseum Survival AI Agent (McGill University): Developed a competitive game-playing AI agent for a 2-player territory control game using strategic movement and wall placement. Utilized search-based algorithms and heuristics to maximize spatial control. Evaluated through tournament against peer agents (1000+ games), achieving top-tier performance.

Banking System in MIPS Assembly (McGill University): Built a banking application with account creation, deposit/withdrawal, transfer, and loan logic using memory-mapped I/O in MIPS. Stored transactions in array history and implemented full error handling and input parsing via syscall.

Recursive Contour Filling & File I/O (McGill University): Implemented a recursive region-filling algorithm on 2D binary image data parsed from ASCII text, writing .pbm output to visualize filled contours. Built helper subroutines for file reading/writing and 1D-2D mapping logic. Tools: MIPS Assembly, recursion, file I/O

Custom Operating System (McGill University): Built a minimal OS in C from scratch, implementing process management, scheduling, heap/page memory management, file systems, and system calls.

Healthcare Database System (McGill University): Designed ER model and backend application with Java and PostgreSQL to manage patient data. Enforced ACID transactions and optimized CRUD performance with indexing and constraints.

Semantic Analysis of Tweets using NLP (McGill University): Applied TF-IDF and LSA (via SVD) for topic modeling and trained sentiment classification models. Evaluated using RMSE and accuracy metrics.

SOCS Website Backend Development (McGill University): Built backend in PHP using MVC architecture and MySQL, including authentication middleware and RESTful APIs. Improved performance using caching and lazy loading.

Awards

AdStar Python, FastAPI, TensorFlow
McGill Code.Jam(XI)
Developed an AI-powered ad impression predictor. Built predictive models using MLP.

Post COVID-19 Contest Python, Matplotlib, Seaborn, Machine Learning model
Korea Telecome (KT)
Applied statistical and predictive modeling to illustrate economic trends due to COVID-19.

Health Technology Python, MySQL, Flask, React-Native
DefHacks
Developed a web application supporting parents during COVID-19.

Technical Skills

Python, Java, C/C++, JavaScript(ES6), React, Node.js, Django, FastAPI, TensorFlow, PyTorch, DeepSpeed, SQL, NoSQL, Git, Assembly