

John Ghai Manyang

Honours B.Sc. Computer Science (Data Science Option)

University of Ottawa

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GitHub: <https://github.com/Agoot2023>

Portfolio: <https://agoot2023.github.io/my-portfolio/>

Education

Honours Bachelor of Computer Science (Data Science Option)

University of Ottawa

Expected Graduation: June 2027

Relevant Coursework

- Database Systems I & II
- Introduction to Artificial Intelligence
- Data Science
- Software Engineering
- Algorithms and Data Structures

Technical Skills

Programming Languages

- **Proficient:** Python, Java, SQL, JavaScript, C
- **Familiar / Academic Use:** Prolog, Scheme, Go, OCaml
- **Beginner:** C++, R

Databases

- Relational database design and normalization
- SQL querying and optimization
- SQLite, MySQL, PostgreSQL

Machine Learning / Artificial Intelligence

- Supervised and unsupervised learning
- Model training and evaluation
- Introductory deep learning (CNNs, RNNs)
- Data preprocessing and exploratory data analysis

Web & Application Development

- HTML, CSS, JavaScript
- React, Bootstrap
- Responsive UI design
- Data-driven dashboards

Tools & Environments

- IntelliJ IDEA
- VS Code

- Jupyter Notebook
- Android Studio
- Git & GitHub
- Linux

Academic & Technical Projects

Implementation of Symmetric Hash Join Algorithm (*Group Project*)

Database II

- Implemented the **Symmetric Hash Join algorithm** as an alternative to the traditional hash join operator
- Designed data structures maintaining hash tables for both input relations
- Enabled incremental and pipelined join processing suitable for dynamic data
- Analyzed performance trade-offs compared to standard hash join approaches
- Strengthened understanding of **query execution, join optimization, and database internals**

Event Attendance Management System (EAMS) — Android Application (*Group Project*)

- Designed and implemented an **Android-based event management system** supporting three user roles: **Administrator, Organizer, and Attendee**
- Modeled role-based access control with approval workflows for registrations
- Implemented event creation, registration requests, approval/rejection, cancellation, and keyword-based search
- Designed structured data handling for users, events, and registrations
- Demonstrates experience with **database-backed multi-user systems**

Machine Learning & Artificial Intelligence Models (*Individual*)

Introduction to Artificial Intelligence

- Trained and evaluated multiple **supervised learning models** for classification and regression
- Applied **unsupervised learning techniques** for clustering and pattern discovery
- Implemented introductory **deep learning models**, including **CNNs** and **RNNs**
- Evaluated models using appropriate metrics and comparative analysis
- Reinforced understanding of learning paradigms, data preprocessing, and model selection

Analytics Dashboard — MLS Soccer Performance (*Individual Project*)

- Designed a data-driven analytics dashboard to compare player performance statistics
- Implemented interactive visualizations and filtering mechanisms
- Presented structured datasets through charts for comparative analysis
- Demonstrates data analysis and visualization skills for intelligent systems

E-Commerce Web Application (*Individual Project*)

- Built a product-based web application simulating an online shopping system
- Structured product listings and implemented cart-based interactions
- Designed dynamic UI components responding to user actions
- Demonstrates understanding of data organization and transactional workflows

Memory Grid Game — Web Application (*Individual Project*)

- Developed an interactive browser-based game with configurable difficulty levels and themes
- Implemented game logic, state management, and user input handling
- Demonstrates algorithmic thinking and system logic design

Glow & Go Hair Salon — Web-Based Booking System (*Individual Project*)

- Designed a multi-page web application for a service-based business scenario
- Structured service offerings and user-driven booking workflows
- Focused on usability, accessibility, and logical navigation
- Demonstrates end-to-end system design from requirements to implementation

Certifications & Professional Development

- **Introduction to Machine Learning — IBM (Coursera) (*In Progress*)**

Academic Interests

- Databases and Data Warehousing
- Machine Learning and Artificial Intelligence
- Intelligent Information Systems
- Data-Driven Applications

Additional Experience

AI & Applied Machine Learning Experience

AI Model Training – Outlier (Freelance) | Remote | 6 months

- **Trained and evaluated AI models across programming (Java, Python), mathematics, and physics domains**
- **Contributed to supervised training workflows through structured problem-solving and reasoning tasks**
- **Supported model performance improvement via iterative evaluation and feedback**
- **Developed insight into AI system behavior and applied machine learning processes**

Non-technical work experience available upon request.