NOAH GEERTS

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B B.Sc. Computer Science graduate with research and full-stack development experience. Knowledgeable in system design, data structures and algorithms, and machine learning.

EDUCATION

B.Sc. Computer Science Honors
University of British Columbia, Kelowna, Canada
September 2021 – April 2025 | GPA – 4.33/4.33 (96%)

Exchange Program – Computer Science
University College London, London, UK
September 2023 – January 2024

SKILLS

- **Main areas of expertise:** Full-stack dev, system design, data structure and algorithms, machine learning
- **Languages:** C++, JavaScript, Typescript, HTML, CSS, JSON, SQL, Python, Java, Bash, C#
- **Testing:** Google Test, JUnit, Jest, unittest, XUnit
- **Libraries/Frameworks:** React.js, ASP.NET, React Native, Express.js
- **Tools and Systems:** Git, GitHub, Docker, Linux

PROJECTS

Neural Network Library (C++) – May 2025 to Ongoing
- Built a neural network library from scratch in C++ (matrix operations, forward pass, backprop, descent)
- Wrote comprehensive unit tests with Google Test, ensuring correctness and reproducibility.
- Supports arbitrary network shapes, 10 activation functions, 5 loss functions, and 3 descent algorithms, with an easily extendable architecture for new modules.

EasyEats Mobile Nutrition App – June 2024 to May 2025
- Developed a mobile nutrition app using React Native with Expo, Express.js, and firebase. Deployed on AWS
- Implemented a meal plan generation tool using numerical optimization and ChatGPT API calls, as well as a user calorie requirement model based on linear regression in Python. Extensively tested both.
- Utilized agile methodology to release 4 iterations to 20+ beta testers on TestFlight, and deployed the app on the IOS App Store under "EasyEatsDev"

Game of Amazons AI – January 2022 to April 2022
- Developed a Monte Carlo-based AI agent integrating with game server APIs, strengthening understanding of networking and state-space search. Implemented using OOP in Java.
- Competed our AI against 20 other teams in a Game of Amazons tournament, in which we placed 1st.

Charity Donation Platform – September 2024 to April 2025
- Led a 5-person team using the Scrum framework for a full year software project.
- Coordinated sprint planning, standups, and sprint reviews in 2-week cycles.
- Implemented a Typescript Angular frontend and ASP.NET backend with an MS SQL database and EF Core migrations; maintained frontend/backend unit tests with XUnit. Utilized jQuery, JSON, and CSS.

Honors Thesis – September 2024 to April 2025
- Investigated PCA/DWT effects on similarity search accuracy and performance in vector databases.
- Implemented low-level C++ algorithms, automated Linux experiments with Bash, visualized results in Python. Resulted in an honors thesis available in the UBC digital library.