

William Hall

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EDUCATION

North Central College <i>B.S. in Computer Science</i> <ul style="list-style-type: none">GPA: 3.7/4.00Related Coursework: Data Structures & Algorithms, Machine Learning, Databases, Object-Oriented Software Development, Full-stack Web Development, Operating Systems, Cybersecurity, Business statistics	Naperville, IL Aug 2021 - May 2025
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EXPERIENCE

North Central College <i>Computer Science Tutor</i> <ul style="list-style-type: none">Coordinated one-on-one tutoring sessions to assist students with understanding programming concepts, algorithms, and data structures.Conducted in-depth code review sessions with 12+ students, leading to the identification and resolution of common programming errors while enhancing overall understanding of algorithms and data structures throughout coursework.Mentored students in developing best practices in software development, including writing efficiently, readable code and applying version control tools.	Naperville, IL Aug 2024 – Present
North Central College <i>Box Office Student Lead</i> <ul style="list-style-type: none">Collaborated with onboarding new box office workers, including training, and conducting secondary interviews with those chosen by management. And supervised a group of 16 workers.Processed and sold 200+ tickets for performances through an online ticketing system with customers in person, on the phone, or by processing online orders.	Naperville, IL Jul 2022 – Present

PROJECTS

Satellite Image Classification Python, CNN, Torch, NumPy <ul style="list-style-type: none">Developed and evaluated different CNN architectures to improve the classification accuracy of a satellite image analysis model, achieving a 94% testing accuracy with a two-layer CNN model being the most optimized.Utilized Optuna for hyperparameter tuning, reducing training time by 10% and boosting testing accuracy by an additional 5%.	Fall 2024
P2P Remote File Storage Python, Sockets, SHA-256 <ul style="list-style-type: none">Designed and deployed a secure peer-to-peer file storage protocol, achieving a 12% reduction in unauthorized access incidents and a 17% increase in data transfer success rate.Enhanced file security and integrity through SHA-256 encryption for user authentication and data confidentiality.Established secure, encrypted communication channels by generating random session keys and implementing RSA-based key exchange for shared key initialization.	Fall 2024
Battleship Game JavaScript, MongoDB, Node.JS <ul style="list-style-type: none">Developed a Node.js-based multiplayer Battleship game, ensuring seamless real-time communication between two players with WebSocket.Created a REST API with Express.js for data retrieval and updates, for a fast and responsive webpage.Utilized MongoDB to manage user accounts and track high scores for over 100 users.	Spring 2024

SKILLS

Programming: Python, C++, JavaScript, Node.js, Django, MongoDB, SQL
Tools: Git, Agile, SOLID, Scrum, NLP, LLM, CNN, Optuna, TensorFlow, Scikit-learn, REST API