**Bernhard Nordemann**

bhnordemann@wpi.edu | (631) 935-2880 | [github.com/bhnord](https://github.com/bhnord) | [linkedin.com/in/bernhard-nordemann/](https://www.linkedin.com/in/bernhard-nordemann/)

**Education**

**Worcester Polytechnic Institute (WPI) Worcester, MA**

**Master of Science** in Computer Science May 2024

**Bachelor of Science** in Computer Science, **Minor** in Electrical and Computer Engineering May 2024

GPA: 4.0/4.0 (Dean’s List for 6 Semesters)

**Relevant Coursework:** Computer Networks, Machine Learning, Deep Learning, Database Systems, Algorithms, Software Engineering, Design of Software Systems, Distributed Computing Systems, Software Security Engineering, Operating Systems

**Skills**

**Programming Languages:** Python, Java, C, C++, JavaScript, TypeScript, HTML/CSS, SQL, x86-64 Assembly

**Cloud and DevOps:** Git, Gradle, Amazon ECS, Terraform, Docker, Amazon SQS, Amazon SNS, LocalStack

**Software Development:** Spring Boot, Elasticsearch, Apache Kafka, Node.js, React.js, Next.js, WebGL

**Experience**

**Chewy**, *Software Engineering Intern* June 2023 – August 2023

* Developed an application to proactively identify internal orders related issues over 30 million orders monthly using Amazon ECS, Terraform, Docker, Amazon SQS, Amazon SNS, Next.js, Spring Boot, Gradle, Elasticsearch, and Apache Kafka
* Enabled users to quickly and precisely address order issues to prevent loss of revenue and improve customer experience
* Stored pre-processed data in Elasticsearch to enable redrive of missing or incorrect data, ensuring continued metric accuracy
* Reduced build time by 33% by parallelizing Gradle build and isolating integration testing, saving engineers time
* Integrated Datadog trace tracking and configured health monitoring and alerts for CPU and memory usage as well as latency
* Practiced continuous integration/continuous delivery and deployment (CI/CD) using Jenkins for weekly releases

**Dell Technologies**,*Software Engineering Intern*June 2022 – August 2022

* Developed an Oracle Enterprise Manager Plugin using Enterprise JavaScript (Oracle JET) and Java
* Streamlined hardware information access, increasing the productivity of database admins in over 1,400 companies
* Collected hardware metrics from SQL views and REST API calls to display in a JavaScript frontend
* Exercised Agile practices with Jira tracking tools to collaborate on a globally dispersed team across a 9-hour time difference

**Norquest Capital**,*Software Engineering* *Intern*  June 2020 – August 2021

* Devised a futures trading algorithm using Python with a Tkinter interface to optimize and test trading strategies
* Backtested strategies in Python using pandas to determine risk and returns over 15-year period and created relevant visuals
* Automated the updating of an equities database used to keep track of stocks and commodities using Python scripts

**Projects**

**Blockchain Feasibility Assessment in Collaboration with STC Hong Kong [[Publication Link](https://digitalwpi.wpi.edu/concern/student_works/cn69m767g?locale=en)]** January 2023 – March 2023

* Investigated a blockchain solution to publicly store product certification data for Hong Kong Standards and Testing Center
* Conducted interviews with employees from Verizon, DigiKerma, HerBChain, and STC to determine solution feasibility
* Communicated with project sponsor to determine desired implementation specifications and project deliverables

**Custom Programming Language [[GitHub Link](https://github.com/bhnord/CS4533)]** October 2022

* Developed a recursive programming language from scratch in C++ with a custom grammar and structure
* Implemented grammar, lexical, and syntactic analysis to extract meaningful input and detect syntax errors
* Performed semantic analysis and code generation using LLVM to produce a runnable x86-64 (assembly) executable file

**Hospital Application in Collaboration with Brigham and Women’s Hospital [[GitHub Link](https://github.com/bhnord/Team-N-Project)]** March 2021

* Leveraged Agile development principles to develop medical equipment tracking and workflow application on 10-person team
* Implemented pathfinding, map builder, COVID-screening survey, and service requests using Java and SQL
* Queried and constructed application database using Apache Derby, SQL and Java to provide persistent application memory

**Activities**

**Secretary,** Society of Asian Scientists and Engineers, WPI

**Member,** Cooking Club, Tennis Club, Computer and Technology Club, Cybersecurity Club, Science Fiction Society

**Volunteer,** Southeast Asian Coalition of Central Massachusetts (SEACMA)