**Bernhard Nordemann**

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**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 5 Semesters)

**Relevant Coursework:** Computer Networks, Machine Learning, Database Systems, Algorithms, Software Engineering, Distributed Computing Systems, Software Security Engineering, Cryptography and Information Security, Operating Systems, Computer Graphics

**Skills**

**Programming Languages:** Python, Java, C, C++, JavaScript, SQL, MATLAB, HTML/CSS

**Tools:** GitHub, Gradle, Maven, WebGL, Node.js, pandas, scikit-learn, Trello, Jira, TravisCI, Agile Development, Linux OS

**Experience**

**Dell Technologies -** *Software Engineering Intern*June 2022 - August 2022

* Developed an Oracle Enterprise Manager Plugin using Enterprise JavaScript (Oracle JET), Java and PERL
* 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
* Conducted fundamental and technical analyses, performed portfolio risk and performance analytics on 20+ stocks

**Projects**

**Blockchain Feasibility Assessment in Collaboration with STC Hong Kong**  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

**JavaScript Animation [[GitHub Link](https://github.com/bhnord/Comp_Graphics_Project3)]**  July 2022

* Rendered animated scene using JavaScript and WebGL, implementing camera movement, Gouraud shading and shadows
* Applied textures, reflections, and refractions to rendered objects via matrix manipulation to alter object surfaces

**Android Recipe Sharing Application [[GitHub Link](https://github.com/bhnord/recipeapp)]** January 2022

* Developed an Android application using Java to allow users to create and share recipes with family or friends
* Implemented a Node.js REST API to process application requests and interact with an SQL database

**Software Engineering 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 in 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 January 2022 – January 2023

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

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