

# Bernhard Nordemann

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

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](#)]

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](#)]

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](#)]

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)