

# Nghia Hoang

SOFTWARE ENGINEER

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## Education

### Purdue University

West Lafayette, IN

BACHELOR OF SCIENCE IN COMPUTER SCIENCE AND MATHEMATICS, GPA: 3.92/4.0

May 2024

- **Relevant Coursework:** OOP, Data structures, Algorithms, Computer Architecture, System Programming, Compiler, Machine Learning

## Skills

**Languages** C, C++, Python, Java, Rust, Go, JavaScript, Scala, ARM Assembly, SQL

**Frameworks** React, Express, AWS Dynamodb, PostgreSQL, MongoDB, Docker, JUnit

## Experience

### Genesys

Indianapolis, IN (remote)

SOFTWARE ENGINEER INTERN

May 2022 - Aug 2022

- Designed and implemented a microservice to keep track of 500 phone numbers used in production for Genesys Cloud Voice team using **Java (Spring)** and **AWS DynamoDB**
- Implemented a python script to eliminate fake numbers in current service saving **40% occupied space**
- Implemented a python script to support backward compatibility between services saving **15 hours of work**
- Set up **Jenkins test pipeline** for Spring service and configured **Docker** images for it to run
- Wrote integration tests and deployed the service to AWS platform using **CloudFormation, Packer, Ansible**
- Documented the service architecture and **20 API endpoints** of the service and wrote performance report

### Purdue University

West Lafayette, IN

TEACHING ASSISTANT

Aug 2021 - Dec 2022

- Held weekly office hours to assist students with **data structure and algorithm** topics
- Prepared and graded programming, written assignments for **100+ students**, and answered questions on Piazza

### NTN

HCMC, Vietnam

SOFTWARE ENGINEER INTERN

May 2021 - Aug 2021

- Developed an e-commerce website that serves as the online shopping platform for the company using **React.js** for the frontend and **Node.js/Express.js** for the backend
- Implemented exporting data from database to CSV files feature used by company's accountants
- Utilized **Google Maps API** to display a list of stores to assist customers in finding the best fit location
- Automated newsletter sending to **500+ subscribed customers** via email/text message process, saving **10 hours of work** per week

## Projects

### Java Subset Compiler

- Wrote a compiler from a subset of Java programming language to ARM Assembly utilizing LR(1) machine
- Technologies: **C/C++**

### Shell

- Developed a UNIX shell supporting advanced features including line editing, history list, and path completion
- Technologies: **C++, Lex, Yacc**

### Scribble It

- Designed and implemented a real-time drawing game web application
- Implemented important game features including shared drawing canvas, drawing toolbar, real-time scoreboard, chat box, scoring system, game timing system and customized words pool
- Technologies: **HTML/CSS/JavaScript, Node, Express, Socket.IO**

### Graphing

- Developed a web application to visualize directed/undirected, weighted/unweighted graphs
- Implemented feature that transforms commands into DOT language strings allowing users to save/share graphs
- Technologies: **HTML/CSS/JavaScript, d3-graphviz**