STEPHEN NAH

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EDUCATION

Carnegie Mellon University **Pittsburgh, PA**
Bachelor of Science in Computer Science, Concentration in PL Theory, Minor in Physics | **GPA:** 3.89/4.0 *May 2025*
Relevant Courses: Compiler Design, Higher-Order Typed Compilation, Database Systems, Networking and the Internet, Machine Learning, Algorithm Design and Analysis, Foundations of Programming Languages, Advanced Computational Physics

EXPERIENCE

Software Development Engineer Intern **Seattle, WA**
Amazon *May 2024 – August 2024*
- Built a per-tenant workflow provisioner for fraud and risk mitigation
- Implemented AWS Step Functions, Amazon S3, and AWS Lambda infrastructure using AWS CDK in Typescript
- Designed interface definition with API Gateway integration using Smithy

Software Engineering Intern **Pittsburgh, PA**
CMU Computer Science Academy *January 2024 – December 2024*
- Built and maintained CS Academy website, an online Python curriculum for high school students and CMU students enrolled in introductory programming course
- Developed website interface using React, Redux, and SCSS to enhance teacher and student experience
- Implemented keystroke tracking with precise timing using Django, enabling accurate plagiarism detection

Teaching Assistant **Pittsburgh, PA**
Carnegie Mellon University *January 2023 – Present*
- Lead weekly recitation lectures and hold office hours for Compiler Design / Principles of Functional Programming
- Provide feedback on hundreds of students' homework assignments and exams
- Conduct code reviews for organization and documentation across student codebases

CMU Computer Science Academy CPCS/Outreach Team **Pittsburgh, PA**
CMU Computer Science Academy *July 2022 – December 2023*
- Designed and reviewed notes and exercises for online Python course
- Co-led professional development sessions to teach course content to high school teachers
- Resolved Freshdesk support tickets by assisting with debugging and clarifying course content

PROJECTS

OSI Model Network, Transport, and Application Layers
Networking and the Internet Projects *December 2024*
- Built mixnet in C using Spanning Tree Protocol, using shortest-path algorithm to optimize for latency
- Performed TCP handshakes and implemented TCP Reno algorithm for congestion control
- Utilized Berkeley socket API to send HTTP requests via pipelining and parallel connections

C0 Compiler
Compiler Design Project *May 2024*
- Developed a Rust-based compiler for C0, a safe subset of C
- Applied series of optimizations which outperformed GCC benchmarks
- Integrated LLVM support and compilation for 32-bit x86 assembly

Sprintdle
Personal Project *August 2023*
- Built a website application inspired by Wordle using HTML/CSS and Javascript
- Implemented multiple diverse game modes such as Classic, Frenzy, and Survival
- Designed a how-to-play section and a statistics section based off local storage

paigeBot
Personal Project *January 2023*
- Created a social media application that quizzes users about images from entertainment media
- Used Python to request from multiple database APIs and schedule coroutines concurrently

SKILLS

Languages: Python, C/C++, Rust, Java, OCaml, Standard ML, HTML/CSS, Javascript/Typescript, SQL, R
Other: Git, OpenMP, OpenACC, MPI, Apache Spark, PyTorch, TensorFlow, x86 assembly, React, LaTeX