# STEPHEN NAH

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## EDUCATION

**Carnegie Mellon University**  **Pittsburgh, PA**
*Bachelor of Science in Computer Science, Minor in Physics* | **GPA:** 3.89/4.0  *May 2025*
**Relevant Courses:** Database Systems, Compiler Design, Introduction to Computer Systems, Advanced Computational Physics, Algorithm Design and Analysis, Parallel and Sequential Data Structures and Algorithms, Principles of Functional Programming

## EXPERIENCE

**CMU Computer Science Academy Software Engineering Intern**  **Pittsburgh, PA**
*Carnegie Mellon University*  *January 2024 – May 2024*
- Built and maintained CS Academy website interface with React and Redux
- Collected students' submission data in database using Django

**Teaching Assistant**  **Pittsburgh, PA**
*Carnegie Mellon University*  *January 2023 – Present*
- Lead weekly recitation lectures and hold office hours for Principles of Functional Programming
- Provide feedback on hundreds of students' homework assignments and exams

**CMU Computer Science Academy CPCS/Outreach Team**  **Pittsburgh, PA**
*Carnegie Mellon University*  *July 2022 – December 2023*
- Designed and reviewed content for online Python curriculum for high school students and CMU students enrolled in introductory programming course
- Co-led professional development sessions to teach course content to high school teachers

**Supplemental Instruction Leader**  **Pittsburgh, PA**
*Carnegie Mellon University*  *August 2022 – December 2022*
- Led weekly study sessions for Physics I for Science Students, promoting engagement through collaborative activities

## PROJECTS

**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

**Malloc Lab**
*Introduction to Computer Systems Project*  *July 2023*
- Implemented a dynamic memory allocator for C programs via segregated free lists
- Achieved 74% utilization and 7k+ throughput

**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 scheduled coroutines concurrently

**Cold Gravitational Collapse Simulation**
*Introduction to Computational Physics Project*  *December 2022*
- Simulated three-dimensional N-body system using particle-mesh (PM) method
- Evolved gravitational collapse and explored resolution limitations of PM code
- Utilized Python libraries such as numpy, matplotlib, and scipy

## SKILLS

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