

# Vincent Schacknies

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## Education

### Northeastern University

Expected May 2027

*Khoury College of Computer Science, Candidate for BS in Computer Science*

*(GPA: 3.73 / 4.00) Boston, MA*

- **Relevant Coursework:** Programming in C++, Algorithms and Data Structures, Object Oriented Design, Linear Algebra, Introduction to Databases, Computer Systems.

## Technical Knowledge

**Languages:** Python, C++, Java, Javascript, HTML, CSS

**Tools/Frameworks:** Docker, Flask, Electron, React.js, RESTful Services, Node.js, Git, Pytest

**Certifications:** IBM Full Stack Developer Certified

## Projects

### Vit

Jul – Aug 2025

**Concept:** A version control software written in C++ following the Git object model that provides AI powered features such as adding comments, generating reviews, and splitting large commits into smaller descriptive ones. The AI client is swap-able between the OpenAI API and a locally run model.

**Frameworks/Technologies:** OpenAI API, Curl (C++), Ollama, CMake

**Future Development Plans:** Continue to integrate features from Git such as cloning and a staging area.

### JAX-PT

Apr – Aug 2025

**Concept:** A differential perturbation theory calculator for cosmology. JAX-PT is a re-write of the FAST-PT codebase to leverage Jax's autodifferentiation, GPU acceleration, and JIT compilation, providing up to 100x speedup against FAST-PT. It is available for installation on PyPi.

**Frameworks/Technologies:** Jax, Differential Programming, JIT Compilation, Cuda

**Future Development Plans:** Maintain the code with new features from both Jax and FAST-PT.

## Experience

### NASA Funded Cosmology Research at NEU

Jan – Jul 2025

*Software Engineer*

*Boston, MA*

- Accelerated all Fast-PT computations by 2–3x through a multi-tiered caching system.
- Redesigned and modernized the API to enable seamless integration with cosmology software ecosystems (e.g., CLASS, CAMB).
- Authored comprehensive documentation and implemented a unit testing framework (pytest) to improve maintainability and scientific reproducibility.

### Zeta Beta Tau Fraternity

Aug – Dec 2024

*Operations Director*

*Boston, MA*

- Managed internal tasks including brother attendance at events, communications with nationals, and dispute resolution.
- Formed and upheld relations with alumni via a monthly newsletter and informed them on alumni events happening with the current chapter.

### EIT Care

Jul – Sept 2022

*IT Support*

*Houston, TX*

- Worked one-on-one with clients of the company to discuss their needs and identify solutions.
- Created macro in Excel using Visual Basic to convert pharmacy COVID test results data to state regulated format.
- Collaborated with employees to perform an audit of the company directory and user access applications.

## Other Interests

US Figure Skating Double Gold test level, yearly performances for Northeastern Figure Skating Club, travel, recreational gym enthusiast