

Nathan Johnson

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Education

Loyola University of Chicago

B.S. Computer Science

GPA: 3.94

Chicago, IL

Expected Graduation: May 2026

Relevant Coursework: Data structures and Algorithms, Discrete Math, Calculus I & II, Linear Algebra, Computer Systems, Programming languages.

Future Coursework: Operating Systems, Object-Oriented Design, Database Programming, NLP, Machine Learning

Experience

Argonne National Laboratory

Computational Research Aide / Sophomore

Lemont, IL

May 2024 – August 2024

- Contributed to the ARCHES project using SYCL to offload critical computational workloads to GPUs, streamlining and automating performance bottlenecks on the Aurora supercomputer.
- Utilized OpenMP to parallelize tasks and optimize runtime in a Linux-based HPC environment, demonstrating proficiency in systems-level development and distributed computing.
- Performed code profiling and bottleneck analysis with MAQAO, implementing targeted optimizations to improve scalability and reduce operational overhead.

Computational Research Aide

May 2023 – August 2023

- Automated HPC workflow management in Python for the CPS division, integrating C/C++ libraries through ctypes and pybind11 to streamline advanced computations.
- Deployed distributed computing techniques with mpi4py, refining automated parallel processes and gaining experience with Python-based HPC pipelines.
- Demonstrated a strong understanding of Linux environments, cross-language performance optimization, and parallel programming.

TrueLayer

Business Development Intern

London, UK

January 2025 – Present

- Gained exposure to fintech systems integration and open banking solutions.
- Created data-driven outreach strategies for potential partners, honing analysis and communication skills essential for cross-functional systems projects.

Loyola University of Chicago

Loyola AI Club President

Chicago, IL

August 2023 – December 2024

- Oversaw a ML-based project that recommended similar movies, applying automation strategies using Pandas, NumPy, and Scikit-learn to streamline data pipeline tasks.
- Managed a team of ~25 active members, organizing weekly events and tech talks to cultivate a collaborative environment and encourage mentorship in AI/ML.

Skills

- **Programming Languages:** Python, C++, Java, Scala, Ruby
- **Systems Engineering & Automation:** Bash scripting, Python scripting for workflow automation
- **Open-Source & Distributed Computing:** Linux, HPC cluster environments, mpi4py, OpenMP, SYCL
- **Development Tools:** Git, cProfile, PyBind11, Pandas, NumPy, MAQAO