**Nathan Johnson**

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**Education**

**Loyola University of Chicago**  Chicago, IL *B.S. Computer Science*  Expected Graduation: May 2026 **GPA:** 3.94 **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**  Lemont, IL*Computational Research Aide | Sophomore*  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**  London,UK  *Business Development Intern* 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** Chicago,IL  *Loyola AI Club President* 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