**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

* Collaborated on the ARCHES project under the CPS division, focusing on GPU offloading using SYCL for performance-critical applications on the Aurora supercomputer.
* Conducted code profiling and bottleneck analysis using MAQAO, improving parallel computation workflows.
* Demonstrated effective team leadership by coordinating optimization strategies with cross-functional research teams, aligning technical solutions with project milestones.

*Computational Research Aide*  May 2023 – August 2023

* Developed Python-based HPC workflows (CPS division), employing mpi4py to facilitate distributed, parallel computing.
* Integrated C/C++ libraries into Python using ctypes and pybind11, enhancing performance for large-scale data operations.
* Strengthened knowledge of object-oriented design, concurrency, and distributed systems—elements directly relevant to query engine development.

**TrueLayer**  London,UK  *Business Development Intern* January 2025 – Present

* Conduct data-driven market analysis to inform strategic partnerships, sharpening analytical and problem-solving skills.
* Utilized cross-functional teamwork and technical knowledge to support product roadmaps, reinforcing collaborative coding and agile work practices.

**Loyola University of Chicago** Chicago,IL  *Loyola AI Club President* August 2023 – December 2024

* Led a team to develop a movie recommendation system using Pandas, NumPy, and Scikit-learn, demonstrating proficiency in algorithm design, data structures, and performance optimization.
* Oversaw weekly meetings, workshops, and guest lectures, managing a growing club community.

**Skills**

* Programming Languages: C++, Python, Java, Scala, Ruby
* Core CS Fundamentals: Algorithms, Data Structures, Operating Systems, Object-Oriented Design
* Distributed & Parallel Computing: OpenMP, SYCL, MAQAO, mpi4py, HPC workflows
* Database & Data Processing: Interest in relational databases, vectorization, and high-performance query execution