

COLIN M. LUANGRATH

COMPUTER SCIENCE AND PSYCHOLOGY UNDERGRADUATE

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SUMMARY

Motivated Computer Science student with a dual major in Psychology at University of Wisconsin-Madison, offering hands-on experience in Python, Java, Analytics, Machine Learning, HTML, Ruby on Rails, 3D modeling, and Blender. Actively seeking a summer internship to leverage strong problem-solving abilities and research experience to a collaborative team environment.

PROFESSIONAL EXPERIENCE

Technical Research Aide, Argonne National Laboratory	Summer 2024, 2025
<ul style="list-style-type: none">Conducted benchmarking and performance analysis for Deep Learning I/O (DLIO) on the Polaris supercomputer, improving understanding of AI workload scalingOptimized the performance of DLIO for submission to MLPerf, focusing on reducing I/O bottlenecksApplied Lustre file striping to boost I/O throughput, resulting in an increase of over 15%Developed and executed Python scripts for data analysis, utilizing Matplotlib to create visualizations that informed key project decisionsAcquired hands-on experience in high-performance computing (HPC) environments, including managing virtual environments and executing large-scale parallel jobsPresented a research poster to Argonne's directorate, summarizing key findings and the impact of workload profiling and optimization on ML performancePresented findings to project team and Data Science and Learning (DSL) division weeklyCollaborated with researchers, gaining exposure to cutting-edge advancements in HPC and AI researchWorked independently on ITT project while updating mentors regularly in meetings and standupDeveloped a lightweight performance tracer in C++ for Intel ITT APIs for low-overhead analysis on Aurora reducing time per trace by over 28,000 µsStreamlined development by creating CI/CD pipelines with GitHub Actions	

Field Intern, Casten for Congress	Jun - Nov 2020, 2022
<ul style="list-style-type: none">Entered and audited over 400 updates into Mobilize to ensure accurate voter dataCanvassed in-person throughout the Chicagoland area, building relationships with votersCreated efficient routes for 30+ sign delivery volunteers using Excel and mapping software	

EDUCATION

University of Wisconsin - Madison

B.S. Computer Science, B.S. Psychology, Certificates in Data Science and Game Design

- Mercile J. Lee Scholarship recipient (4 year, full tuition)
- Extracurricular activities: Wisconsin AI Safety Initiative, Minerva Game Studio (UI Dev), Software Development Club, Chess Club, Google Developer Student Club, SEASA, LCSA, JSA
- Relevant coursework: Linear Algebra, Programming II/III, Applied Statistics for Engineers, Computer Engineering, Discrete Mathematics, Artificial Intelligence, Machine Organization and Programming, Algorithms, Operating Systems, Programming Languages & Compilers, Digital Systems

Glenbard South High School	Aug 2019 - May 2023
Certifications: COSS Text Mining & GPU Programming	Jun 2024

SKILLS & INTERESTS

Python	Data Analytics	AI Safety	Cooking	Psychology
Ruby on Rails	HPC	UI/UX Development	Chess	Philosophy
Java	Machine Learning	C/C++	Bouldering	Reading