

Dylan Scott Carroll

Software Engineer

(425) 877-4373 – dyscarroll@gmail.com – carrold7@wwu.edu
dylancarroll.net – github.com/DylanScottCarroll – www.linkedin.com/in/dylan-scott-carroll/

Education

Western Washington University – 4.0 GPA

B.S. in Computer Science / Minor in German / CS Distinguished Scholars Program / CS Pre-Master's Sep 2019 – Jun 2024

M.S. in Computer Science Planned Sep 2024 – Jun 2026

Experience

Software Developer Intern – The International Society for Optics and Photonics Jan 2023 – Mar 2023

- Developed a versatile test automation framework in C# integrated with Postman/JavaScript API tests, boosting test coverage via distributed test execution while streamlining integration of further tests.
- Created comprehensive documentation detailing the design/usage of the auto test system to equip future developers.

Web Developer – *Center for Instructional Innovation and Assessment* Aug 2022 – Dec 2022

- Developed and maintained 3 university websites using HTML and CSS, optimizing for accessibility standards.
- Produced new webpages and sites for annual publications, collaborating with stakeholders to meet content requirements.

Computer Science Tutor – *Western Washington University* Jun 2022 – Sep 2022

- Provided in-person instruction on college-level computer science topics to over 50 students, quickly interpreting assignment specifications and guiding students through problems.
- Tailored teaching style to each student, assessing knowledge gaps, and adapting communication methods.

Computer Science Mentor – *Western Washington University* Oct 2021 – Present

- Serving as an experienced peer mentor to CS pre-major students through weekly knowledge-sharing meetings.
- Provide coding expertise, technical guidance, and career counseling to support student's growth.

Undergraduate Machine Learning Research Assistant – *Hutchinson Machine Learning Group* Sep 2021 – Present

- Leveraging ML techniques such as CNNs and Attention Models for extracting information from astronomical image data to assist Computing Professor Dr. Brian Hutchinson and Astronomy Researcher Dr. Marina Kounkel in their research.
 - Utilizing PyTorch, Weights & Biases, Hydra, and YAML to construct robust machine learning pipelines.
 - Collaborating closely with a team of research students to build and refine ML codebases, meeting project milestones.
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Skills

Languages: Python, C# .NET, C, C++, JavaScript, Java

Web: HTML5, CSS, Flask, RegEx, SQL, MongoDB

ML: PyTorch, Lightning, NumPy, Pandas, hydra, WandB

Tools: VS Code, Git, GitHub, SSH, GDB, PDB, BASH, Make, valgrind, Postman, Linux

Non-technical: Advanced proficiency in German (Level C1)

Projects — See GitHub and dylancarroll.net for more

Class Schedule Generator — JavaScript, HTML, CSS Jun 2021

- Web app that algorithmically generates and visualizes optimal class schedules based on scraped WWU course data.
- Factors in user-specified preferences and constraints to intelligently optimize for the generation of ideal schedules.

Abalone Game AI — Python, PyGame Aug 2021

- AI agent based on minimax and alpha-beta pruning algorithms that plays the strategy game Abalone at human levels.

WTA Hike Finder — Python, Requests, Google Maps API Jun 2021

- Hiking trail search tool providing optimal results based on criteria and travel times calculated via Google Maps API.

3D Raytracing Engine — C, C++ Apr 2021

- Rendering engine that uses raytracing to render 3d scenes with diffuse, reflective, refractive, and flat material shaders.

Terminal Calculator — Python, RegEx, LL-Parsing Nov 2020

- Robust and powerful scientific calculator terminal app focused on convenience and efficiency over traditional GUIs.