

# Meredith Berenson

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## Skills

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| <ul style="list-style-type: none"><li>• C, C++, C#</li><li>• HTML, CSS, JavaScript</li><li>• Raspberry Pi</li></ul> | <ul style="list-style-type: none"><li>• Python</li><li>• SQL</li></ul> | <ul style="list-style-type: none"><li>• RISC-V</li><li>• MySQL</li></ul> |
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## Experience

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| Accounting Associate<br>Iota Financial LLC, Atlanta, GA  | January 2024 - Current |
| <ul style="list-style-type: none"><li>• Completed a high volume of tax returns for individual and corporate clients, ensuring accuracy and compliance with federal and state tax regulations.</li><li>• Utilized computer science expertise to develop algorithms for tracking client records and tax return completion status in a database, optimizing workflow management.</li><li>• Organized and maintained financial records to support efficient auditing and financial analysis.</li><li>• Assisted with accounts payable/receivable, reconciliations, and financial reporting, contributing to streamlined financial operations.</li><li>• Managed administrative tasks, including client communication to gather necessary documentation, address inquiries, and provide updates on tax return statuses.</li></ul> |                        |

## Professional Summary

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| <p>Detail-oriented Software Engineer with a strong foundation in systems programming, low-level hardware interaction, and full-stack development. Former Accounting Associate at Iota Financial LLC with proven experience in data accuracy and high-volume processing. Currently authoring a thesis on Thermal Efficiency Optimization in a Custom Water-Cooled High-Performance PC Build, under peer review for publication in Elsevier's Applied Thermal Engineering. Skilled in C, C++, Python, and SQL, with hands-on experience across embedded systems, RISC-V architecture, and frontend technologies. Passionate about building efficient, scalable solutions that bridge hardware and software.</p> |
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## Publications

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| Thermofluid Characterization and Performance Evaluation of a Copper Hardline-Cooled High-Performance Computing System  |
| <p>This 85 page research-centered capstone project focused on the thermal-fluid systems integration, instrumentation, and performance evaluation of a desktop computing platform optimized for high-power workloads. A closed-loop copper hardline water cooling system was custom-fabricated to investigate the thermodynamic efficiency, hydraulic behavior, and boundary-layer heat transfer characteristics of modern consumer-grade high-performance hardware.</p> <p>The system architecture included an AMD Ryzen 9 9950X3D and NVIDIA RTX 5090 Waterforce WB, interfaced with dual 360mm Alphacool HPE-45 radiators and a D5-based pump loop stabilized with Mayhems Hades+ and biocidal agents. The coolant</p> |

circuit was flushed and validated prior to charged operation. Flow and thermal data were collected via two inline G1/4" sensors positioned across differential pressure regions, as well as GPU return-to-reservoir. Static pressure measurements were obtained via manometry under variable fan load conditions.

Benchmarking employed synthetic workloads (Cinebench, 3DMark, PCMark 10) and steady-state thermal imaging via FLIR I7, with control variables including ambient temperature, humidity, pump PWM signal, and fan RPM profiles. Monitoring and data acquisition were performed using HWInfo64, AquaSuite, and onboard microcontroller feedback. Results were analyzed against theoretical thermofluid models and compared with conventional AIO benchmarks to assess efficiency gains in thermal flux dissipation and volumetric flow stability.

The project was supervised by PhD candidate Jean Gou and coordinated by Dr. Murray Patterson at Georgia State University. It combined principles of thermofluid science, embedded instrumentation, and performance-critical computing.

Education

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| Bachelor of Science (B.S.): Computer Science - Georgia State University, Atlanta, GA  | August 2025 |
| <ul style="list-style-type: none"><li>• 3.91 GPA</li><li>• Thesis: Thermofluid Characterization and Performance Evaluation of a Copper Hardline-Cooled High-Performance Computing System</li><li>• President's List [4 years]</li></ul> |             |
| Master of Science (M.S.): Computer Science   Computing Systems - Georgia Institute of Technology , Atlanta, GA  | August 2027 |

Language

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English  
Native