Michael Masenheimer

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EDUCATION & HONORS

The University of Arizona, *Bachelor of Science,* Tucson, Arizona Sep 2023 - May 2027

- **Major:** Computer Science; **Minor:** Information Science, Technology, and Arts; **GPA:** 3.75
- **Relevant coursework:** Software Development, Web Development, Analysis of Discrete Structures, Computer Organization, Computer Programming (I, II), Discrete Math (I, II), Linear Algebra
- **Honors:** Dean's List with Distinction, Academic Year Highest Distinction, Dean's List, Arizona Excellence Award

SKILLS

Languages and frameworks: Java, C, C++, Python, JavaScript, HTML, CSS, Docker, PyTorch, TensorFlow SpringBoot, Vercel, Git, Bash, JUnit

Operating systems & environments: Windows, Unix, Eclipse, VSCode, Vitis

PROJECTS

Personal Portfolio Website May 2025 - Present

- Designed and developed a portfolio website showcasing projects, work experience, and a biography section
- Features **Lazy Loading, optimized viewport sizing,** and an **interactive navbar** for mobile users in addition to a light and dark mode with persistent state management via local storage
- Utilized vanilla **JavaScript, CSS, and HTML** to define the UI and interactivity and hosted the site through Vercel

Airline data sorter [Java] Jan 2025 - Feb 2025

- Created a program to analyze metadata of airline flight information, utilizing **Hash Maps** to map flights from airports to destination airports, outputting which airports support which airlines
- Leveraged **command-line arguments** for user input, reinforcing back-end development skills

Music Library and User Management System [Java] Feb 2025 - Mar 2025

- Designed a user interface (UI) allowing users to create accounts and customize profiles with playlists and songs
- Implemented **polymorphism** and **inheritance** to structure user data and ensure secure logins, utilizing **ArrayLists** and **TreeMaps** as core data structures
- Utilized **JUnit** test cases to identify technical risks, strengthening **white box testing** strategies and building on articulative technical solutions for backend validation

EXPERIENCE

CERN, *Undergraduate Machine Learning Researcher,* Geneva, Switzerland Apr 202 - Present

- Investigating hardware-based ML systems for the largest particle accelerator in the world, and researching real-time decision-making between AI engines and the collider's current digital signal processors.
- Utilizing high level synthesis tools such as **PyTorch** and **TensorFlow** to train and test **convolutional neural networks** and the AMD versal series AI engines
- Potential to improve collider trigger systems in terms of computing power and efficiency

University of Arizona Libraries, *Student Makerspace Worker,* Tucson, AZ Jan 2025 - Present

- Hosts drop-in hours to assist around 10 students weekly with certifications in Raspberry Pi, Arduino, and makerspace technologies, enforcing **customer-rooted technical problem solving**
- Leads **programming** and **circuit workshops** with C and Arduino technologies through the makerspace
- Works collaboratively with fellow student workers to maintain a clean, safe and inclusive environment through student project and technology assistance

LEADERSHIP

Computer Science Ambassador, Tucson, AZ Jan 2025 - Present

- Contributes to outreach events and leads tours with fellow ambassadors for prospective students
- Volunteers with K–12 students to teach coding and promote computer science at the University of Arizona
- Mentors underclassmen through pre-major classes and their transition into the Computer Science program and helps to guide undergraduates through the program