Marcus Scese

Versatile Computer Science Master's Graduate;
with Proven Expertise in Corporate and Academic Environments.

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Education

- **Michigan Technological University** — Houghton, MI
  Master of Science in Computer Science; GPA: 3.70 — *Jan. 2022 – Dec. 2023*
- **Michigan Technological University** — Houghton, MI
  Bachelors of Science in Computer Science; GPA: 3.21 — *Aug. 2017 – Dec. 2020*

Experience

- **Michigan Technological University** — Houghton, MI
  Graduate Research Assistant — *Aug 2022 - Present*
  - **GraphQL Mesh**: Applied cutting-edge API technologies such as GraphQL and GraphQL Mesh to optimize clarity within existing naval data lakes
  - **Data Automation**: Facilitated the creation of Typescript based Docker containers that automate the organization of big data into a data fabric such that it complied with a predefined XML structure
  - **Architectural Design**: Designed architectural solutions to address data lake challenges, ensuring efficient data management and retrieval
  - **Masters Report**: Classified and catalogued the vast amount of information generated during the duration of a large multi-tiered project, culminating in published results for the completion of my Master's degree
  - **Team Leadership**: Guided and supervised two undergraduate researchers in project takeover processes, while spearheading the development of experimental data fabric analysis
- **Xeratec** — Hancock, MI
  Full-Stack Software Engineer — *Aug 2021 - Aug 2022*
  - **Notifications**: Engineered Android and iOS global push notification systems, resulting in a 10% increase in customer retention through targeted marketing efforts
  - **Legacy Maintenance**: Led operations to maintain legacy PHP-built webpages for diverse clientele
  - **Website Development**: Aided in the redesign and restructuring of training services for a major automotive part producer, facilitating streamlined tracking of employee training requirements and enabling managers to provide feedback and approve new training initiatives
  - **Presentations**: Delivered comprehensive reports on code development and project progress, engaging directly with the company President as well as the Owner of a two-million-dollar annual revenue enterprise.

Projects

- **Augmented Reality Terrain Display**: Physical and software project for intuitive interaction with terrain heightmaps, emphasizing modularity and user enjoyment
  - **OpenCV**: An image capture and processing library, integral to image alteration, point detection, and display functionalities within the project
  - **CUDA**: A library for seamless interaction with Nvidia GPUs, optimizing image processing speed within the project
- **Hand Position Image Tracker**: Machine learning project based on the faster R-CNN model retrained using PyTorch for the purposes of identifying and tracking hands
- **Raytracer**: Sophisticated 3D rendering project employing advanced mathematical models to simulate light paths for realistic scene rendering
  - **SDL2**: A versatile multimedia library for cross-platform game and multimedia development, utilized for displaying finalized images in Windows
- **Quantum Computation Survey Report**: Survey paper examining endeavors to replicate quantum computation on conventional computing devices
  - **Taxonomy**: A comprehensive classification system for organizing research papers based on subject matter, developed within the paper to classify major differences in tensor contraction

Programming Skills

- **Languages**: Python, C, C#, SQL, TypeScript, PHP, Java, GraphQL **Technologies**: OpenCV, Pytorch, LLVM, OpenGL, GODOT, SDL2, Jest, CUDA, Docker, Xamarin, Postman, Jira, Git, Azure