MICHAEL LABARBERA

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EDUCATION AND CERTIFICATIONS

University of California, Irvine | Irvine, CA   June 2024

- BS in Computer Science, Specialization in Networked Systems
- Relevant Coursework: Computer and Network Security | Machine Learning and Data Mining | Introduction to Data Management | Embedded Software | Design and Analysis of Algorithms | Data Structure Implementation and Analysis | Linear Algebra | Multivariate Calculus | Intro to Statistics | Principles of Operating Systems
- Activities: Varsity Oarsman for UCI Rowing Club, Triathlete, Rock and Alpine Climber, and Musician
- GPA: 3.4

CompTIA Security+ | In Progress   November 2024

TECHNICAL SKILLS

- **Programming Languages:** C++, C, Python, Java, SQL, HTML & CSS
- **Tools:** Scikit-learn, PyTorch, Matplotlib, NumPy, Pandas, Jupyter Notebooks, Wireshark, Bochs, Qemu, Git, WSL, Linux, ARM Microcontrollers, Docker, Oracle Cloud Infrastructure
- **Skills:** Cryptology, Network Security, Machine Learning, Database Construction and Querying, Algorithms and Data Structures, Object Oriented Programming, Embedded Software

WORK EXPERIENCE

Boundary Remote Sensing Systems, *Lead Subsea Algorithmic Developer* | Irvine, CA   2024-Current

- Volunteer project to produce an open-source climate research portal driven by new remote sensing techniques.
- Design and train a model using Synthetic Aperture Radar data and internally acquired marine datasets to analyze oceanic surface disruptions and water chemical compositions.
- Construct hydrodynamic simulations of submerged bodies using MATLAB and modern modeling techniques.

The Rowing Channel, *Field Engineer* | Irvine, CA   2024-Current

- Operate a variety of technologies to provide reliable and high-quality sports livestreams.
- Address technical issues onsite regarding network connectivity and availability, AV transmission, live audio, and video mixing software.
- Lead broadcast operations to ensure seamless cooperation between drone pilots, boat videography crew, and stationary camera operators.

BrenTech, *IT Technician* | San Diego, CA   2020-2021, 2023

- Assisted clients with diverse IT needs through phone and remote support, diagnosing and solving technical challenges in a timely and professional manner.
- Streamlined workflow to reduce project lag from shift transitions, resulting in a 20% improvement in resolution time.
- Problem-solved hundreds of unique hardware and software repairs on a variety of platforms, including Windows, MacOS, Microsoft Exchange Server, and SonicWall Networks.
- Assisted in web-development with technologies such as Shopify, HTML & CSS, MySQL, and PHP.
- Maintained professional relationships with clients, ranging from national-scale corporations to local business owners.

PROJECTS

Database Management System, *C++*   2024

- Built an efficient, memory-friendly, database manager for a relational database that supports querying, multiple data types, B+ tree indexing, and variable length records.
- Implemented a memory-efficient page manager that ensures that higher-level API calls utilize only a single page of memory, irrespective of the database file size. This design significantly enhances performance and scalability.
- Reduced individual attribute lookup times from $O(n^2)$ to $O(n)$ by implementing page and record lookup tables.

Street View House Number Classifier, *Python 3, PyTorch*   2023

- Collaborated with a team to produce a deep learning model and a write-up about the technical specifics.
- Developed and tested a classifier using PyTorch and Matplotlib to determine the digit of house number images.
- Trained on the Stanford Street View House Number dataset - http://ufldl.stanford.edu/housenumbers/
- Achieved an accuracy of 85% using a 7 layer forward-feed Neural Network and Stochastic Gradient Descent optimization with Nesterov Momentum.