**MICHAEL LABARBERA**

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**EDUCATION**

**University of California, Irvine |** Irvine, CAJune 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

**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 (NDA)* | Irvine, CA 2024-Current

* 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 a variety of modern techniques and tools.

**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 by up to 80% by implementing page and record directories, optimizing lookup times from $O(n^{2})$ to $O(1)$.

**Street View House Number Classifier,** *Python 3, PyTorch* 2024

* 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.