ZUBAIR QAZI

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EDUCATION

University of California, Riverside **September 2018 - March 2023**
B.S. Computer Science **Overall GPA:** 3.88 - *Magna Cum Laude*
M.S Computer Science **Current GPA:** 3.75

Courses Data Structures & Algorithms, Software Construction, Artificial Intelligence, Data Mining, Deep Learning, Databases

TECHNICAL SKILLS

Languages Python, C++, HTML/CSS, Javascript
Software PyTorch, TensorFlow, Pandas, Jupyter Notebook, Git/GitHub, UNIX

RESEARCH EXPERIENCE

MAD Lab @ UCR ***December 2020 - Present***
Student Researcher

- Applying tensor decomposition for OOD detection by leveraging hidden patterns in network data.
- Implemented and tuned GAN and AutoEncoder models via PyTorch and PyTorch Lightning.
- Applied for and received a fiscal award for $3000 via Google exploreCSR program and $5000 via the DSPath fellowship opportunity to continue research.

WORK EXPERIENCE

Lawrence Livermore National Laboratory ***August 2021 - September 2021***
Research Developer

- Collaborated with multi-disciplinary team to develop a pipeline for classifying asteroids from night sky survey images (ZTF).
- Conducted extensive pre-processing of the dataset, including generating new positive data samples from the original dataset to address class imbalance.
- Trained a CNN classifier with up to 94% testing precision via TensorFlow / Keras.

Dexcom, Inc. ***June 2020 - August 2020***
Software Engineer Intern

- Developed iOS applications to prototype new flagship app features, using Swift and Xcode.
- Implemented database functionality in prototype applications using GRDB and SQLite.
- Interfaced with an internal RESTful API to create a prototype push notification service, increasing projected user engagement by 40% based on a user survey.
- Wrote extensive technical documentation and tracked development issues in both Confluence and Jira.

PROJECTS

Personal Portfolio Site ***September 2020 - Present***

- Utilized HTML/CSS and Javascript to create a web application that showcases personal projects.
- Leveraged the React Bootstrap framework to implement interactive UI components for simple site navigation.
- Integrated TravisCI for seamless build and test automation, reducing deployment time by 70%.

Melanoma Detection ***June 2022***

- Trained a CNN model for melanoma classification with up to 80% precision using PyTorch.
- Implemented an autoencoder for compression of high-resolution skin sample images.
- Integrated bayesian optimization to optimize both models' architecture and hyperparameters.

Container Ship Service ***December 2021***

- Developed a Flask-based web application for optimizing container loading and unloading processes on ships.
- Implemented the A* algorithm to determine the optimal sequence of container movements, taking into account factors such as weight distribution, ship balance, and spatial constraints.
- Designed a grid visualization of the ship's layout, providing a visual representation of real-time progress.

PROFESSIONAL DEVELOPMENT

UCR-BCOE: Graduate Teaching Assistant ***March 2022* - Present**
ACM@UCR: Membership Cha ir, Event Manager ***March 2020 - March 2021***
Cyber@UCR: Ethics Director ***March 2020 - March 2021***