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ZACHARY BASTIANI

WORK HISTORY

BIOFIRE | DEVOPS SOFTWARE ENGINEER | OCTOBER 2022 - CURRENT

- Working in R&D supporting data science and research endeavors
- Building custom programs and cloud infrastructure
- Learning applications of ML in industry

STRIVE HEALTH | DATA SCIENCE INTERN | MARCH – JUNE 2022

- Built disease trajectory model from white paper
- Improved disease trajectory model using new techniques
- Achieved more accurate results than initial white paper
- Worked with AWS hosted database

UNIVERSITY OF UTAH | UNDERGRADUATE RESEARCH | JUNE – DECEMBER 2021

- Researched Semi-Blind Calibration of Sensor Networks using the Gaussian Process
- Built public files for commercial use
- Wrote high-level documents explaining my research
- Presented research to peers and faculty

UNIVERSITY OF UTAH YOUTH THEATRE | PROGRAMMER | MAY – AUGUST 2019

- Built the front-end UI for a canvas-like system in Python
- Independent work
- Self-managed my time
- Worked as an individual contractor

UNIVERSITY OF UTAH YOUTH THEATRE | THEATRE TEACHER | JUNE – AUGUST 2018

- Primary teacher for a TV production class
- Helped direct a play with another director
- Learned to teach difficult concepts at an entry level

JEWISH COMMUNITY CENTER | CAMP COUNSELOR | JUNE – AUGUST 2017

- Worked to instill good morals in kids
- Built an explorative and fun environment

EDUCATION

UNIVERSITY OF UTAH | 2023 – PRESENT

- Ph.D. Student at the School of Computing
  - Co-advised by Professor Mike Kirby and Professor Shandian Zhe
- Research focused on improving and understanding deep learning models

UNIVERSITY OF UTAH | 2016 – 2021

- Earned a Bachelor of Science in Computer Science
  - Emphasized in Machine Learning, Advanced Algorithms, Data Base Systems
- Earned a Bachelor of Science in Applied Mathematics
  - Emphasized in Number Theory, Probability, Cryptography, Graph Theory, Numerical Analysis
- 3.4 GPA
  - Maintained while simultaneously pursuing both degrees

WEST HIGH SCHOOL | 2012 – 2016

- IB and AP Classes
- Graduated in top 10% of my class
- 4.1 Weighted GPA

SKILLS

Program languages: Python, SQL, C#, R, Java, C

Proficiencies: PyCharm, GitHub, Visual Studio, Atom, Docker, and Eclipse

Libraries: PyTorch, NumPy, Matplotlib, Pandas, Beautiful Soup

Advanced understanding of Math Proofs

Quick learner; Great communication skills; Team player

EXPERIENCE

DENOISING DIFFUSION PROBABLISTIC MODEL | HOUSE PROJECT | 2022

- Studied new applications for diffusion models
- Scrapped custom image data set to train on
- Explored DDPM's ability to generate unique images

INCOME PREDICTIONS | UNIVERSITY OF UTAH | 2021

- Processed and analyzed data, used bins and one hot encoding
- Predicted income level with 83% accuracy

DATA BASE SYSTEMS | UNIVERSITY OF UTAH | 2021

- Built an SQL database to store and access student information
- System was then deployed online

DATA SCIENCE | UNIVERSITY OF UTAH | 2019

- Scraped data on movies
- Processed and analyzed data to find correlations
- Predicted success of movies with 95% accuracy

MATHEMATICS RESEARCH | UNIVERSITY OF UTAH | 2017

- Researched a proof of the 4-color theorem using tree properties
- Presented findings to classmates

VARSITY ESPORT CAPTAIN | UNIVERSITY OF UTAH | 2016 - 2021

- Organized and worked with a team of 8
- Learned to effectively communicate and problem solve

YOUTH THEATRE CONSERVATORY | UNIVERSITY OF UTAH | 2014 - 2016

- Worked in a specialized group to participate in various preforming arts
- Literary analysis of advanced scripts
- Maintained a strong working relationship with a small team

SOCCER | WEST HIGH SCHOOL | 2012 - 2016

- Top goal scorer in 2016.
- Worked with teammates across ages and skill levels.

RISK AI | WEST HIGH SCHOOL | 2014

- Coded an AI to win at risk
- Simple hardcoded decision tree based on probabilities

CELLIST | 2008-2016

- Learned to read music and perform pieces in front of a live audience.
- Memorized and successfully performed pieces up to the intermediate level
- Played in orchestra in 2016, working with other musicians to successfully perform group pieces of music.

REFERENCES

Ross Whitaker | Professor of Computer Science | whitaker@cs.utah.edu
Mohammadreza Faraji | Senior Data Scientist | mfaraji@strivehealth.com
Eldon Jenkins | Principal Data Scientist | ejinkins@strivehealth.com
Penelope Marantz-Caywood | **Adjunct Assistant Professor of Theatre** | p.caywood@utah.edu