**Candidate 0**

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**Data Scientist**

***Dynamic, top-of-the-class Data Scientist with a Master’s Degree, offering a unique blend of expertise in both Mathematics and cutting-edge data science technologies.***

With over a decade of rich experience in mathematics and computer science, I've excelled in diverse projects, from image classification to autonomous training data creation. I have used remote edge computers to gather data for computer vision and ultrasonic distance assessments. My expertise encompasses machine learning algorithms, data analysis, and concrete problem-solving. In the realm of computer vision, I've gained substantial experience in areas like image classification, tracking, and pose detection, underpinned by a keen passion for data science applications. I'm proficient in tools and languages including Python, TensorFlow, PyTorch, and Nvidia DeepStream SDK. An honored recipient of a full ride scholarship in Mathematics at Colorado State University, I come endorsed by esteemed faculty in both Calculus and Data Science from my Master's journey. My innovative contributions span building YOLO datasets, designing Convolutional Neural Networks, and harnessing the Nvidia Jetson Orin. I've also specialized in leveraging PoE video data streams with H.265 encoding. As a dedicated data scientist, I am committed to pushing boundaries and innovating solutions in the digital realm.

**TECHNICAL PROFICIENCIES**

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| Data Science: | * Python (NumPy, Pandas, Scikit-learn, Matplotlib, PyTorch, TensorFlow, Keras), Linux & WSL2, Git * Competencies: Data Visualization & Dashboarding, Artificial Intelligence, Computer Vision, Pose Detection, * Predictive Machine learning: Supervised algorithms include Convolutional Neural Networks, Tesseract OCR, YOLO, Logistic Regression, K-Nearest Neighbors, Decision trees and Random Forests, XGBoost, Naïve Bayes. Unsupervised: K-Means Clustering, Principal Component Analysis * Additional Skills: Team Building, Mentorship, Languages (Python, Jupyter Notebooks, R) |
| Mathematics: | Linear Algebra, Algebra, Statistics including Hypothesis Testing, Probability including Bayesian Theorem, Honors Pre-Calculus, Trigonometry |

**PROFESSIONAL EXPERIENCE**

AURA technologies, Remote – North Carolina 05/1/2022 – 09/14/2023

Data Scientist III – Computer Vision/Additive manufacturing

* Promoted from Data Scientist II to III within the first year.
* Developed innovative 3D model classification algorithm using a deep convolutional neural network implemented with PyTorch and TensorFlow for additive manufacturing.
* Designed a system that used a combination of yolo and open pose to detect poses in humans which included hand detection.
* Designed autonomous systems for training data generation for 3d models in YOLO.
* Implemented several computer vision algorithms using an Nvidia Jetson Orin AGX. Models tested were Resnet, Yolo, Open pose, and Mask-Rcnn in the Deepstream-SDK. Systems included tracking and counting people in frame. The system utilized several types of power over ethernet cameras including night vision cameras. I tested streaming using H.265 encoding over the network using multiple simultaneous camera streams.

Thrive and Grow Farms, Remote – Tucson, Az 3/2/2020 – 05/1/2022

Data Scientist – Computer Vision and Reinforcement Learning

* Implemented automation solutions for plant watering and lighting in remote locations using Python and relay technologies. Successfully collected data from six ultrasonic sensors across three microgreen trays.
* Designed and implemented a computer vision classification system using edge computers with a 97% accuracy for identifying microgreen plants using a TensorFlow -- Keras neural network.
* Pioneered reinforcement learning data collection techniques using ultrasonic distance sensors to boost microgreen plant yields.
* (Personal project) I built a autonomous system that generated box files and a class list for training a Yolo classifier. The program was able to clean images and generate appropriate classes for training a YOLO dataset using Tesseract OCR for the Diablo 2 video game. See Diablo project on my website.

Widefield High School – Colorado Springs 8/01/2019 – 12/02/2019

High School Math and Computer Science Teacher

* Taught Programming and Statistics.
* Employed diverse teaching methods to cater to varied learning styles.
* Successfully taught statistics to remedial students and was able to generate excellent results by using a daily quizzing system. The system promoted positivity about mathematics and guided students to success.

**Palmer High School – Colorado Springs 7/17/2017 – 5/31/2019**

High School Mathematics Teacher

* Earned the term of endearment from my students they called me the Underpaid Mathematician.
* Specialized in teaching a wide range of math courses, including Algebra, Honors Pre-Calculus, and Statistics
* Improved student outcomes through the implementation of various teaching strategies

Pikes Peak Community College – Colorado Springs 1/1/2013 – 12/31/2015

Math Tutor and Supplemental Instructor for Calculus

* Tutored students in all courses including remedial math and advanced math courses.
* Assisted students in excelling in calculus, resulting in the strongest calculus group to ever complete Calculus 3 at Pikes Peak Community College.
* Scored in the 97th percentile nationally in Chemistry.

**KEY PROJECTS –** [**Portfolio Link**](https://www.underpaidmathematician.com/)

Visit: <https://www.underpaidmathematician.com/>

Communication through Art (bottom of page)

Gathering Diablo 2 Resurrected Gem Data for Yolo Network (Part 1, 2, & 3) (First landing page)

Implemented a PyTorch Yolo v5 network on the first 11 min of Final Fantasy 7 Remake video; quickly designed an interactive video demonstrating Yolo Network performance.

Microgreen Data Collection for Keras/TensorFlow Reinforcement Learning Project

Microgreen Image Classification, Keras & Tensor flow

**EDUCATION**

M.S. in Data Science – 3/9/2020 – 6/30/2021

Bellevue University, Bellevue, NE

B.S. in Mathematics – 8/21/2014 – 5/6/2017

Colorado State University Pueblo, Pueblo, CO

Undergraduate Coursework in Mathematics – 8/1/2013 – 05/29/2015

Pikes Peak Community College, Colorado Springs, CO

Relevant Coursework

Statistics for Data Science Data Presentation & Visualization | Big Data | Data Exploration, and Analysis | Predictive

Analysis | Data Mining, Data Preparation, Linear Algebra, Probability, Statistics | Calculus 1, 2, and 3

**Honors & Awards**

4.0 GPA Masters and Undergraduate

Scored in the 97th percentile nationally in Chemistry.

Full Ride Scholarship to CSU Pueblo

Supplemental instructor Calculus at Pikes Peak Community College

Highly Skilled in Calculus 1-3, Statistics, Probability, and Linear Algebra