MIKYLA BOWEN

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Education

Colorado State University- Double Major in Computer Science and Data Science, Honors Program (May 2024)
Northridge High School- Diploma with STEM Endorsements in Information Technology and Mathematics and Science (May 2020): Earned endorsements by taking higher-level courses, demonstrating advanced proficiency in those areas, and completing a machine learning capstone project.

Work Experience

Colorado State University Computer Science Undergraduate Teaching Assistant (January- December 2021): Worked with CS 165 instructors to assist with course logistics, provided instruction on data structures and the Java language as lead TA for two sections of labs, graded assignments, answered student questions and debugged code at helpdesk.
City of Evans IT Department Intern (June 2019- August 2019): Organized resources, researched products, led internal evaluation meeting, assisted with hiring new staff and with help-desk operations, developed collaborative relationships.

Research and Projects

Research Lab Position under Dr. Jesse Wilson (November 2020- Current):

Cell Nuclei Image Segmentation: Utilized an underlying UNET Convolutional Neural Network (CNN) architecture to segment nuclei in H&E and multiphoton images. Worked on data preparation: hand segmenting data and image augmentations, coded dataflow pipeline, and loss functions to improve model accuracy. Used Python and TensorFlow.

CycleGAN image standardization for machine learning in dermatology: Developing a new framework, image2image, to increase malignant and benign classification model accuracy outside of the training domain for melanomas. Trained a CNN to predict image classification with a .85 AUROC on multiple institutions' data and up to .9322 AUROC for a single institution. Mitigated class imbalance problem. Trained a CycleGAN to translate images between clinic domains and between malignant and benign classes. Using generated image predictions to create a more explainable and robust classification. Ongoing project supported by a Boettcher Collaboration Grant. Using Python, PyTorch, and TensorFlow.

Student Health Advisory Council (SHAC) (January 2018- July 2021): Designed a logo, website interface, and two murals using Affinity Designer and Procreate, collaborated with a local artist to paint the murals, produced a promotional video, launched a t-shirt campaign which fundraised over $900 for SHAC.

Chat iOS app and computer program (2019): Coded iOS app and computer program using Swift and Python to allow phones to chat with computers over LAN using TCP and client-server architecture.

Awards/ Honors

Boettcher Scholar 2020: Full-ride merit-based scholarship based on scholastic ability, leadership, service, and character, one of 42 selected state-wide, continued responsibilities to maintain the scholarship for four years.
Additional scholarships and honors: Greeley Stampede Scholarship (2020), Colorado Council for High School Volunteer Service Scholarship (2020), CSU Honors Scholarship (2020), CSU Deans Honor's List (2020, 2021), National AP Scholar (2020), AP Capstone Diploma (2019), National Hispanic Recognition Program Scholar (2019)

Skills

Experience working with programming languages: Python, Java, and R and working knowledge of C, C++, MATLAB, Swift
Experience using programming libraries: NumPy, Pandas, TensorFlow, and PyTorch

Extracurricular Activities

Clubs: Active Minds, Association for Computing Machinery (ACM-W chapter), Hashdump (Cybersecurity club)

Officer Positions: Active Minds Social Media Director (2020-Present)