Laila M. Romero

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EDUCATION

Texas A&M- Corpus Christi   **Expected May 2023**
Currently pursuing Master of Science in Computer Science   **GPA 3.33/4.00**

The University of Texas at El Paso (UTEP)   **May 2021**
Bachelor of Science in Computer Science, Minor in Mathematics   **GPA 3.44/4.00**

Relevant Courses
Advanced Machine Learning, Data Structures, Advanced Information Assurance, Discrete Mathematics, Numerical Analysis, Calculus II, Matrix Algebra, Digital Systems Design, Advanced Computer Architecture, Advanced Operating Systems

SKILLS

Programming Languages and Frameworks
- Java (5 years), Python (3 years), C (2 years), PHP (1 year), Prolog (6 months), Pytorch (1 year), Tensorflow (1 year), SciKit Learn (1 year), Matlab (2 years)
- Machine Learning/ Artificial Intelligence Experience
- Research Experience
- Working knowledge in Perfecto Mobile, Adobe Photoshop, MySQL, MondoDB

Interpersonal
- Bilingual in Spanish and English
- Experience in customer service
- Experience in group work

WORK EXPERIENCE

Texas A&M-Corpus Christi, Corpus Christi, TX (September 2021 - Present)
Graduate Research Assistant Computer Science Department
- Working with Dr. Carlos Rubio-Medrano head of Cybersecurity Research and Innovation Laboratory on the topics of the cybersecurity and adversarial machine learning
- Project consists of finding a unique defense method against adversarial attacks on image detection convolutional neural networks without compromising the accuracyof the model

UTEP, El Paso, TX
Undergraduate Research Assistant Computer Science Department (November 2019 – May 2021)
- Worked with Dr. Martine Ceberio on the topic of the theoretical foundations of optimization methods of neural networks
- Project consists of finding the best optimization method in regard to training time and total error for training neural networks as well as analyzing the components and mathematical reasoning behind the best working optimization methods
- Organized meetings with team members to discuss progress and any problems that they may encounter in their projects
Summer Research Assistant Computer Science Department
- Team lead for the Machine Learning Research Group
- Led a group of students from various vREU universities and contributed to their research projects
- Created a neural network from scratch in Java and Python to get a complete understanding of the innerworkings of a neural network aswell as for training and testing purposes
Webmaster Chemistry and Biochemistry Department (March 2019-June 2021)
- Maintained and oversaw the Department of Chemistry and Biochemistry webpage using Cascade and HTML
- Created, maintained, and oversaw the personal webpages for multiple UTEP Chemistry professors using Cascade and HTML
- Organized meetings with faculty and staff to discuss any changes or issues with the web pages
Volunteer Coordinator/ ACES Associate (August 2017-January 2019)
- Took on leadership roles as head volunteer coordinator for the College of Engineering and Public Relations
- Oversaw and coordinated STEM related activities going on in the El Paso, Canutillo, and Ysleta areas
- Provided and facilitated opportunities to all volunteers over community service
- Provided customer service and facilitated meetings for engineering organizations on campus

Prudential Financial, El Paso, TX (Summer 2018)
GBTS Software Quality Assurance Intern
- Worked as a software quality assurance intern for the Global Business and Technology Solutions unit
- Conducted application testing as well as web based, and security vulnerability testing
- Helped in the production of the latest version of Workfront, PingID, Adobe Flash, and McAfee
- Held meetings and conference calls with application testers and made test strategies
- Worked with ALM and Perfecto mobile to conduct application testing

TECHNICAL PROJECTS

Semantic Segmentation UAV U-Net

Texas A&M-Corpus Christi January 2022- April 2022)

Personal Project
- Created an image segmentation neural network in Python using Jupyter notebooks
- Trained and tested the neural network on the UAVid Dataset 2020 and modified the architecture to function as a multiclass feature extraction model
- Analyzed model performance against DNN models and the accuracy and mean intersect of union was higher for the U-net model

Study of Optimization Algorithms Effectiveness in Neural Networks Training

El Paso, TX (January 2020 – May 2021)

Undergraduate Research Assistant Computer Science Department
- Created a small-scale feed forward neural network from scratch in Java for testing purposes
- Project consisted of finding the best optimization method for training neural networks
- Recreated multiple optimization methods such as Gradient Descent with Backpropagation, Genetic Algorithm, Newton's method, and Adam optimization method
- Organized meetings with team members to discuss progress and any problems that they may have encountered in their projects
- Analyzed the reasons behind why certain optimization methods worked best

Prudential Financial

El Paso, TX (June 2018 – August 2018)

PingID Application and WorkFront Summer Internship
- Analyzed and tested over 200 test cases through ALM assigned to the application for US, Japanese, German, Chinese and Spanish machines.
- Organized conference calls and meeting with application testers to discuss testing procedures
- Conducted testing through ALM and Perfecto Mobile on different platforms

PROFESSIONAL DEVELOPMENT

GMiS, El Paso, TX (October 2020)

Great Minds in STEM Undergraduate Research poster competition
- Abstract was selected to participate in the Undergraduate research poster competition
- Presented project focused on the Optimization Algorithms Effectiveness in Neural Networks Training
- Discussed my findings and future research with judges

Google, Austin, TX (April 2019)

Hispanic Student Leadership Summit
- Was one of 50 students nationwide to be selected to participate in workshop
- Met and collaborated with other students and Google engineers
- Discussed and practiced methods on how to better improve our leadership skills and help out those around us

Alaskan Native Science and Engineering Conference, Anchorage, AK (January 2018)

Engineering Conference
- One of three students selected as a representative for the University of Texas at El Paso
- Attended the Alaskan Native Science and Engineering Conference at Anchorage Alaska to learn about a STEM program to engage minorities into STEM careers beginning as early as middle school.
- Learned about the business and monetary aspects in starting programs for STEM students and the affects they hold in the growth of STEM careers.

VOLUNTEER EXPERIENCE

University of Texas at El Paso,

NEXUS Program Instructor El Paso, TX (September 2020 – October 2020) (May 2021 – July 2021)
- Helped coordinate and taught the 6-week program for high school girls looking to get into computer science research
- Guided university student led sessions and met with the high school students to help with their personal projects
- Created activities based on neural networks to help the students get an understanding of how neural networks work

Volunteer for Girls Who Code (August 2018 – October 2019)
- Worked with and taught high school students the basics of computer science data structures
- Led one-on-one tutoring sessions for students who needed extra help understanding material