# UZMA HAMID

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## EDUCATION

**Texas A&M University - College Station, TX** **May 2025**
*Bachelor's, Computer Science* *Major GPA: 4.0, Cumulative GPA: 3.8*

**Drake University, Des Moines, IA** **August 2021-December 2022**
*Bachelor's, Computer Science, Engineering and Data Analytics*

## PROFESSIONAL EXPERIENCE

**Book-Arcade Application** **College Station, TX**
*Project Manager – Aggie Coding Club* *August 2023 - Present*

- Leading a team of 30 students in building a sophisticated social platform for book lovers using HTML/CSS, JavaScript, Python
- Employing frameworks and libraries like Django (REST), and React, while concurrently implementing advanced recommendation algorithms such as Content-Based filtering and Collaborative filtering.

**Pixel-Wise Annotation Tools for Semantic Segmentation** **Des Moines, IA**
*Student Research Assistant - Computer Vision* *January 2022 - January 2023*

- Led a Computer Vision research initiative, developing a fine-grain annotation tool using Python and OpenCV to enhance image annotation efficiency.
- Utilized Python libraries (PIL (Pillow), NumPy, matplotlib, cv2), implemented image processions algorithms (contour detection, polygon approximation, and image manipulation), and collaborated with Penn State University to present research findings at CCSC in March 2022.

**Technology Services Texas A&M University, Drake University** **College Station, TX**
*Student Technician* *October 2021 - Present*

- Collaborate with 12 other student techs to successfully configure and deploy campus computers, enhancing technological accessibility for students and staff.
- Utilized troubleshooting skills to achieve a high problem-resolution rate while providing on-call support and onsite technical assistance for technical issues from students, faculty, and staff.

**MISSFIT: Magneto-Ionization Spacecraft Shield for Interplanetary Travel** **Des Moines, IA**
*Undergraduate Researcher – Physics* *November 2021 - December 2022*

- Conducted simulations to study particle behavior in varying spacecraft geometries and magnetic fields.
- Designed and optimized a Monte Carlo simulation method for faster testing, enabling the exploration of multiple configurations and assessing magnetic field strengths for radiation shielding.

## PROJECTS

**TableTop Segmentation**
*Lead Student*

- Led research in image segmentation of table-top objects using Graph Neural Networks.
- Developed and implemented a deep learning-based object grasping model, resulting in a 30% improvement in successful grasps by robotic systems.
- Successfully tested and trained OCID and OSD datasets, improving model robustness and reducing false positives during object recognition.

**Chip Visualization**
*Individual Project*

- Developed a Python program to identify image similarity utilizing deep neural networking and the cosine similarity metric, resulting in a streamlined method for finding the top 7 matching images.
- Utilized datasets and models including VGG, ResNet50, and AlexNet to enhance the accuracy of image similarity calculations. Libraries used include Scipy, Glob, NumPy, and Matplotlib.
- Implemented Metric Learning techniques in PyTorch, training a custom embedding model over 300 epochs to optimize image matching.

## TECHNICAL SKILLS

**Languages:** Python (Data Structure and Algorithm), Java/C++ (object-oriented language), JavaScript, HTML/CSS/PHP, R/SAS, MATLAB, Assembly, Networking, Computer Systems (Unix environment).
**Frameworks:** JUnit, PyTorch, TensorFlow, JavaFX
**Developer Tools:** Visual Studio Code, PyCharm, Eclipse, Sublime Text, Git, GitHub, GDB, Jupyter, Emacs
**Libraries:** NumPy, Matplotlib, TensorFlow, Tkinter, PIL, OpenCV

## ACHIEVEMENTS/LEADERSHIP

**Donald's VI Adams Leadership Institute**: Attained recognition among the top 5% of students, securing a spot in the esteemed leadership program.
**Dean's List** — Spring 2022 - Spring 2023
**Women in Cyber-Security**
**International Student Association TAMU** – Marketing Officer
**TAMU Women in Computer Science**