Shane Poldervaart

Email: Shane.Poldervaart@gmail.com Phone: 281-731-8181
Links: https://github.com/PoldervaartS   https://www.linkedin.com/in/shane-poldervaart-36137a171/

EDUCATION

Texas A&M University

Masters of Science in Computer Science GPA: 4.0	December 2022
Bachelors of Science in Computer Science GPA: 3.73	May 2021

Minors: Statistics, Cybersecurity

RELEVANT COURSE WORK

- Graduate:

Research (Autodrive) ● Parallel Computing ● Deep Learning ● Artificial Intelligence ● Software Engineering

- Undergraduate:

Data Science ● Human Computer Interaction ● Computer and Network Security ● Machine Learning ● Linear Models ● Statistics 2 ● Design and Analysis of Algorithms ● Computer Systems ● Programming Studio ● Honors Computer Organization ● Programming Languages ● Honors Data Structures and Algorithms ● Linear Algebra

PROFESSIONAL EXPERIENCE

Texas A&M University

Graduate Teaching Assistant (20hrs/week)   August 2021 – May 2022

- Ran 3 lab learning sessions with 30 students per section teaching new material to students in order for them to put into practice what they have learned in C++.
- Held office hours catering to a total of 600 students, designed lab material and exam questions, and graded exams for students across all sections.

Ethos Group

Full Stack Software Engineer (Full Time Summers, 20hrs Semester time)   June 2019 – August 2021

- **2021**: Leveraged and developed system-wide integration of Dealer Management Systems in order to allow users to stay inside a single system for the entirety of a Deal process with the ultimate goal of full digitalization allowing for much more mobility alongside further expansion of interfaces to interact with customers.
- **2020**: Designed in unison with lead software architect to create a framework agnostic web component library to enable future technological pivots utilizing atomic design, storybook, and stencil. Worked on a digital finance and insurance menu based on NgRx in angular 8 in order to maintain a single source of truth across a large single page application allowing for more flexible sales strategies.
- **2019**: Worked in an Agile development cycle to help redesign pages to fit modern styles and attain more in-depth functionality updating from Angular 2 to Angular 7 along with extensive refactoring of .NET core middleware. Ultimately allowing stakeholders to increase efficiency and future development updates to be easier.
- **References**:
  Product Director: John Larman
  Email: jlarman@ethosgroup.com
  Lead Software Architect: Tim Scrivner
  Email: tscrivner@ethosgroup.com

PROJECT EXPERIENCE

Perception Team Member Autodrive Challenge II   August 2021 – Current

- Working on General Motors Autodrive Challenge II against 16 other universities as a member of the perception team working to accurately recognize the environment around an autonomous vehicle being designed entirely by A&M University. http://autodrive.tamu.edu/
- Designed a finite state machine to act as an intermediary and introducing a prior to traffic signal detection in order to ensure proper flow between light states increasing accuracy by up to 20%. This works by inputting traffic type detected earlier in the module first through the state machine to properly filter classification noise in route planning. https://github.com/PoldervaartS/trafficlight
- Currently working on computer vision realization in 3d environments by combining LIDAR with camera input to provide accurate object tracking on pedestrians, signs, and traffic.

CIFAR-10 Resnet   October - November 2021

- Hand built a tandem deep residual neural network based off of published research to accomplish an 87% classification accuracy in pytorch.
- Can easily train and test different models by changing configuration file. https://github.com/PoldervaartS/Cifar10cnn_pytorch

Team Lead General Motors Autodrive Challenge   January – April 2021

- Achieved 1st place for A&M in Level IV autonomous driving assessment during the final year named as the *Dynamic Event.* http://autodrive.tamu.edu/
- Lead a team to leverage computer vision through deep neural networks (YOLOv4) with the goal of identifying traffic signs and signals at upwards of 150 feet with 80% confidence. https://github.com/PoldervaartS/traffic_detection
- Custom curated over 10GB of training sets to a single standard from open-sourced data. https://github.com/PoldervaartS/traffic_detection_dataset

Project Endeavr   January – April 2020

- Presented recommendations to City Planning of Nolanville Texas to become a smart city through cooperation between multiple disciplines and the city http://endeavr.city/
- Traffic flow optimization and evaluation of solutions is capable through trained deep neural network (VGG16) identification of pedestrians, cyclists, and motor vehicles.
- This can be leveraged in the future at locations of interest to collect and analyze data. https://github.com/PoldervaartS/Endeavr_Bravos

Animation in Stress Learning

- Worked in a 6-person team to create web animations for student learning in biology emphasizing agile workflow, unit testing, and communication with the stakeholders ultimately allowing students to better be able to learn from home during a pandemic.
  https://github.com/cwrothrock/Animations-in-Stress-Learning-Content   *Spring 2020*

IMDB Query Application Team Lead

- Lead development of an application that can be used by film buffs to submit various queries. These queries include the modular search of two people finding a string of films through which they are related modularly. This functions from choosing Director, Producer, or an Actor. Another possible query is to input a span of years, and the user will be returned a minimum spanning list of actors or directors who consecutively worked on films in those years. Finally, the users can input two actors and they will be returned a list of films with degrees of separation between the two actors.
  https://github.com/PoldervaartS/IMDBApp   **Fall 2019**

LANGUAGES AND TOOLS

Languages

4+ Years' Experience – Java, C++, Python, R

2 Years' Experience – C#, Angular, HTML, Typescript, CSS, SQL

1 Years' Experience – React, Assembly, Haskell, MATLAB

Tools & Frameworks

4+ Years' Experience – Git, Azure Dev Ops

2 Years' Experience – NumPy, Pandas, Node, Entity Framework, .NET Core, Microsoft SQL Server Management

1 Years' Experience – Pytorch, scikit-learn, OpenCV, ROS

MEMBERSHIPS

President of Texas A&M Rocket League (250 members)

As president I coordinate weekly tournaments with 20+ attendees, find and disseminate information about events hosted by other organization on a national level to students, manage the general community and competitive teams and finally compete myself organizing practice times with other colleges and communities.   **Fall 2018 – Fall 2020**

Developer for the College Carball Association (3,000 members)

Assisted in full stack development to manage member information and production streams to 15 thousand viewers along with growing a grassroots community centered around collegiate competition of Rocket League.

https://www.cca.gg/   **Spring 2019 - Current**