Zhexu (Calvin) Li

Phone: (+1) 805-618-5607 • Email: ZHL411@UCSD.EDU • Website: https://hinanawits.github.io/

After five years of focused and rigorous training at UCSD in Machine Learning and Data Science field, I am excited and eager to apply my knowledge and skills to real-world applications.

EDUCATION

MS in Machine Learning and Data Science (graduation expected in March 2023) **September 2021 - March 2023**

Dept. of Electrical and Computer Engineering | Jacobs School of Engineering | University of California, San Diego

Core Courses: Machine Learning for Physical Applications, Deep Generative Learning, Visual Learning, Computational Data Analysis and Product Development, Sensing and Estimation in Robotics.

BS in Data Science (Cumulative GPA: 3.57) **September 2017 - June 2021**

Halıcıoğlu Data Science Institute | University of California, San Diego

Core Courses: Theoretical Foundations of Data Science, Probabilistic Models for Artificial Intelligence, Data Management, Data Analysis and Inference, Machine Learning, Data Mining, Data Visualization, Spatial Data Analytics, Systems for Scalable Analytics.

Honors: Provost Honors in Fall 19, Winter 20, Spring 20, Fall 20, Winter 21 and Spring 21

SKILLS

Programming: Python, SQL, HTML / CSS / JS, Java, R

Data Analytics and Visualization: Pandas, Dask, PySpark, Seaborn, Matplotlib, Bokeh, Numpy, ArcGIS, AWS, Excel

Machine Learning: Pytorch, Scikit-learn

INTERNSHIP EXPERIENCE

Existential Robotics Laboratory **July 2022 – August 2022**

Mentor: Professor Nikolay Atanasov | UC San Diego | Electrical and Computer Engineering | Contextual Robotics Institute. Summer Research Internship Program. Working as a member of the autonomous race car team, developing a ROS Gazebo simulation environment for ground robots in the lab. Experimenting and intergrading Localization (DSOL), Mapping (Voxblox), and Planning (A*, OMPL) packages onto the cars for autonomous racing. Part-time involvement in the research topics before and after the internship.

CLASS PROJECTS [Details]

Image Classification and Segmentation

Experimented with state-or-the-art deep learning architectures to classify wildlife images through transfer learning.

Improved the Wide-ResNet50 which brought over 5% improvement in classification accuracy over the vanilla network, with negligible extra computational cost.

Implemented and trained a Gaussian Naïve Bayes model to recognize and segment blue recycle bins from images.

Autonomous Driving, Simultaneous Localization and Mapping (SLAM)

Implemented a Particle Filter SLAM using odometry, 2D Lidar scans, and stereo camera images collected from an autonomous car.

Implemented Visual Inertial SLAM based on Extended Kalman Filter using IMU measurements and stereo cameras.

Spatial Data Analysis

Analyzed potential factors for bike related accidents in San Diego County using GeoPandas.

Assessed Wildfire Hazard Potential in San Diego County using ArcGIS.

Data Visualization

Supervised by Professor Rajesh Gupta, developed an indoor airborne COVID – 19 infection risk estimation website using Dash and Highcharts, the website features convenient interactive visualization for fast comparison, with great transparency and extensibility, while maintaining the ease of use.

Developed a Flask-based website for analyzing and visualizing Airbnb rental trends in NYC, featuring user-friendly interactive visualizations built with Bokeh, and full documentation for transparency and extensibility.