

Zhengqi(Drago) Dong

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EDUCATION

Boston University, Boston, MA

Expected 05/23

MS in Robotics & Autonomous Systems

Ohio State University, Columbus, OH (GPA: 3.67/4.0)

08/17 – 05/21

B.S Computer Science Engineering (Minor in Statistics)

Graduated with Honor in Engineering, and Honor Research Distinction in Agricultural Engineering

Related Coursework: Medical Robotic, Robotic Autonomous System, Machine Learning, High-performance Deep Learning, Natural Language Processing, Algorithm & Data structure, Operation System, Networking, Information Security, Web Development, Database Systems, Probability & Statistic, Statistical Modeling, Excel and Access, Analog & Digital Circuits

PROJECTS AND RESEARCH

Deep-Learning Based Plant Disease Detection(Python, TensorFlow, Supercomputing Center, Slurm/PBS scheduler):

- Awarded \$5500 scholarship by proposing an image-based deep learning approach and application framework design for plant leaves disease detection.
- Compared pros and cons of approaches between machine learning and deep learning-based detection.
- Conducted sequences of experiments on multiple factors including train-validation split ratio, batch size, and complexity size of pre-trained models, which resulted in 99.5% and 98.11% accuracy in training and validation respectively.
- Completed "Honors Research Distinction" thesis by authoring and presenting multiple deliverable works of literature, including over 70+ pages thesis, presenting a poster in two research forums, and oral defense presentation.

Movie Recommendation Website (Python, Django, React.js, Docker, Heroku, Travis CI):

- Coordinated with three other senior students to develop a dynamic movie recommendation website by using Django as backend and React.js as frontend.
- Accomplished various useful features including user and movie database, routes configuration, multi-languages support, movie recommendation, and searching by leveraging IBM Cloud Platform and TMDB RESTful APIs.
- Achieved automated deployment by containerizing the application with Docker and launching via Heroku.

Multi-threaded MapReduce Emulator (Multithreaded programming, C, makefile, Valgrind):

- Created and implemented a Multi-threaded version of MapReduce Emulator for counting the number of occurrences of words for a given file, which potentially can be used for search engines or web crawlers in text processing.

SKILLS

Programming languages: Python (Django, Flask, PyTorch, and certified Google TensorFlow Developer), and C (GDB, Valgrind, makefile), R (tidyverse and shiny), Java, Ruby (Ruby on Rails), SQLite, X86 Assembly Language, HTML, CSS(Bootstrap), JavaScript(React.js), MATLAB, Bash Script, LaTeX

High-Performance Computing Applications: TensorFlow/PyTorch/LBANN deep learning framework, Horovod/Dask/mmpi4py library, and Slurm/PBS scheduler, distributed training concept (model/data/hybrid parallelism, MPI operations)

Software Applications: PyCharm, RStudio, Visual Studio, Eclipse, Linux/Unix, Git version control, AWS(Cloud 9), Docker, Heroku, CAD(SolidWorks).

Hardware Applications: Arduino, Jetson Nano, Milling, 3-D Printing

ACTIVITIES

2019 RoboMaster Competition at Shenzhen, AI Team Member (python, TensorFlow): launched OSU first-year competition, and cooperated with AI team members to develop a customized infantry fighting vehicle Object Detection model with Yolo-v3 algorithm.

2018-2022 four-year EcoCAR Mobility Challenge (EMC), Member of OSU CAVs(Connected and Autonomous Vehicles) teams (python, MATLAB): Studied and contributed in writing code for fusion algorithm with Kalman Filter (KF) and Extended Kalman Filter (EKF).

2018 IEEE SAC Micromouse competition at Pittsburgh: Coded DFS/BFS/Uniform cost/A* search algorithm with Python on Micromouse robot to search the shortest path in a maze.

LEADERSHIP & EXPERIENCE

WebMaster, Student Association of Graduate Engineers (SAGE) at Boston University, Boston, MA

08/21 - Present

Student Instructional Assistant, The Ohio State University, Columbus, OH

08/20 - 05/21

Vice-president, OSU Table Tennis Club, Columbus, OH

05/19 - 05/20

HONORS AND AWARDS

- Dean's List (>3.5 GPA) over five semesters, and graduated with Honor Research Distinction.
- Awarded 2020, 2021 IEEE Excellent Service Award, active IEEE members (Student Member, 2018–Present).
- Awarded Table Tennis Team Champion at 2018-19 NCTTA Midwest Tournament.