Zhengqi(Drago) Dong

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EDUCATION

Boston University, College of Engineering, Boston, MA **Expected 12/22**
MS in Robotics & Autonomous Systems
The Ohio State University, College of Engineering, Columbus, OH (GPA: 3.67/4.0) **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

Multi-threaded MapReduce Emulator (Multithreaded programming, C, makefile, Valgrind): **01/2021 - 05/2021**
- 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.

"CORE" Language Interpreter (python, kernel of interpreter): **01/2021 - 05/2021**
- Implemented a seld-defined “CORE” language interpreter from scratch, with features including program scanner/tokenizer, semantic checking(syntax, type, function definition, scope, object binding), program executor, garbage collector, and recursive function call.

Filmpedia -- Movie Recommendation Website (Python, Django, Docker, Heroku, Travis CI): **08/2020 - 12/2020**
- Collaborated within a group of six 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.

Deep-Learning Based Plant Disease Detection(Python, TensorFlow, Slurm/PBS scheduler): **06/2019 - 12/2020**
- 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.

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, Gatsby, Prisma), MATLAB, Bash Script, LaTeX
High-Performance Computing Applications: TensorFlow/PyTorch/LBANN deep learning framework, Horovod/Dask/mpi4py library, and Slurm/PBS scheduler, distributed training concept(model/data/hybrid parallelism, MPI operations)
Software Applications: Visual Studio, PyCharm, Linux, Github, AWS(Cloud 9, EC2), Docker, Heroku, CAD(SolidWorks)
Robotic Application: ROS, SLAM, Jetbot, Jetson nano, Arduino, Milling, 3D Printing

ACTIVITIES

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