Zhengqi(Drago) Dong

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EDUCATION

Boston University, College of Engineering, Boston, MA (GPA: 3.9/4.0) **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: Robotic Autonomous System, Machine Learning, High-performance Deep Learning, Natural Language Processing, Computer Vision, 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 deliverables works of literature, including over 70+ pages thesis, presenting a poster in two research forums, and oral defense presentation.

Filmpedia -- 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.

"CORE" Language Interpreter (python, kernel of interpreter):
- Implemented a self-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.

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: Deep Learning framework(e.g, LBANN, Horovod, Dask), Distributed Training (model/data/hybrid parallelism, Slurm/PBS scheduler, MPI), Code Optimization (e.g., loop parallelism, reassociation, blocking), Others (e.g., Pthread, OpenMP, SSE/AVX SIMD vector programming, intrinsic C, and CUDA programming)
Software Tools&Technologies: Linux, Github, AWS(Cloud 9, EC2), Docker, Heroku, Postman, CAD(SolidWorks)
Robotic Tools&Technologies: ROS, SLAM, Jetbot, Jetson nano, Arduino, Milling, 3D Printing

LEADERSHIP & EXPERIENCE

WebMaster, Student Association of Graduate Engineers (SAGE) at Boston University, Boston, MA 08/21 – Present
Course Assistant (DS 519, Software Engineering X-Lab Practicum**)**, The Boston University, Boston, MA 01/21 - Present
Student Instructional Assistant (CSE3461, Networking), The Ohio State University, Columbus, OH 08/20 - 05/21
WebMaster, IEEE at OSU Undergraduate chapter, Columbus, OH 01/18 - 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, three gold medals in Ohio International Chinese Martial Art Championship.