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: 3.65/4.0) 05/21
B.S Computer Science Engineering (Minor in Statistics)
Graduated with Honor in Engineering (29/317), and Honor Research Distinction (3/317)

Related Coursework: Medical Robotic, Soft Robotic, Motion Planning, Machine Learning, High-performance Deep Learning, Natural Language Processing, Computer Vision, Algorithm & Data structure, Interpreter & Compiler, Operation System, Networking, Information Security, Web Development, Database Systems, Probability & Statistic, Analog & Digital Circuits

WORK EXPERIENCE

Software Engineer Intern, Yrobot lnc, Boston, MA, United States 06/22 - 09/22
- Designed and developed a File Transferring Simulator for company's embedded system of wearable devices.
- Wrote C++ code for dev board and Python code for client endpoint to establish a communication channel via TCP and X/Y/ZMODEM protocol, used CMake to build system and GTest for unit testing.
- Implemented a Bayesian inference-based probability distribution model for foot placement prediction with Python.

Software Developer Intern, BU Spark!, Boston, MA, United States 09/21 - 01/22
- Created a website that loads mutual aid resources from Postgres database, then displays all food resources and mutual aid locations around Greater Boston area in an interactive map by using Mapbox API.
- Devised and developed the front-end in Gatsby to improve user experience by adding a multi-language feature.
- Deployed frontend via GitHub Pages with HTTPS secure access, and utilized Docker Compose to containerize back-end application, then deployed on AWS EC2 instance, and secured the communication between front-end and backed with TLS/SSL certificate.

PROJECTS AND RESEARCH

Deep-Learning Based Plant Disease Detection (Python, TensorFlow, Slurm/PBS scheduler): 06/19 - 12/20
- Awarded $5500 scholarship by proposing an image-based deep learning approach and application framework design.
- Compared pros and cons of approaches between machine learning and deep learning-based detection.
- Conducted sequences of hyper-parameter tunning to improve the result, including train-validation split ratio, batch size, and complexity of pre-trained models, and resulted in 99.5% and 98.11% accuracy in training and validation respectively.
- Completed "Honors Research Distinction" thesis over 70+ pages and presented the result at two research forums.

Filmpedia -- Movie Recommendation Website (Python, Django, React.js, Docker, Heroku, Travis CI): 08/20 - 12/20
- Coordinated with three senior students to develop a dynamic movie recommendation website with Django as backend and React.js as frontend.
- Accomplished various useful features by leveraging IBM Cloud Platform and TMDB RESTful APIs, including user and movie database, routes configuration, multi-languages support, movie searching and recommendation.

Multi-threaded MapReduce Emulator (Multithreaded programming, C, makefile, Valgrind): 01/21 - 05/21
- 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/C++ (GDB, Valgrind, Makefile, gprof), Ruby (Ruby on Rails), Java, R (tidyverse and shiny), X86 Assembly Language, HTML, CSS(Bootstrap), JavaScript (React.js, Gatsby, Prisma), MATLAB, SQLite, Bash Script, LaTeX
High-Performance Computing Techniques: Code Optimization (e.g., loop parallelism, reassociation, blocking), Multiprocessor Optimization (e.g., Pthread, OpenMP, SSE/AVX intrinsic SIMD vectorization, MPI), GPU Optimization (e.g., CUDA programming), Deep Learning Optimization (e.g, model/data/hybrid parallelism, LBANN, Horovod, Dask)
Software Techniques: Linux, GitHub, AWS (Cloud 9, EC2), Docker, Heroku, Postman, CAD (SolidWorks)

LEADERSHIP & EXPERIENCE

Student Instructional Assistant, 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.