

# Zhengqi(Drago) Dong

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## EDUCATION

**Boston University, College of Engineering, Boston, MA**

**Expected 05/23**

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

**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.

**"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), 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, 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.