Yikun Zhou

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EDUCATION

University of Illinois at Urbana-Champaign   *August 2016 – May.2020*
Bachelor of Science in Aerospace Engineering, Grainger College of Engineering
Minor in Computer Science, Mathematics

Carnegie Mellon University   *August 2020 – Present*
Master of Science in Mobile and IoT Engineering, Information Networking Institute

WORK EXPERIENCE

Aerospace Engineering Department Course Assistant/Grader   *January 2020 – May 2020*
University of Illinois at Urbana Champaign   *Champaign, Illinois*
- Grade students' homework and exams and provide learning feedbacks/Q&A regarding students homeworks.
- Discuss students' progress and grading rubrics with Teaching Assistants weekly to identify issues in the course and potential improvements.

Software Engineer Intern   *June 2018 – August 2018*
GUOLIN TECHNOLOGY CORPORATION
Shanghai, China
- Designed and implemented a web platform for a Telecom company to manage, edit and send news to subscribers. Facilitated a key web platform project allowing a telecom company to oversee, edit, and send relevant news to subscribers.
- Utilized an MVC model for website development, including using JavaScript, CSS, and Bootstrap for front-end development.
- Leveraged struts2 to develop the web application framework and Oracle SQL for the back-end database system.
- Implemented a function allowing the system administrator to determine user privileges and manage CRUD (Create, Read, Update, Delete) operations.
- Earned recognition due to the client, China Unicom, employing the platform for day-to-day use.

Aerospace Engineer Intern   *June 2016 – August 2016*
THE COMMERCIAL AIRCRAFT CORPORATION OF CHINA
Shanghai, China
- Contributed to operations by assisting engineers in assembling ARJ-21 aircraft and testing wings.
- Performed in-depth analysis of wing box structures using Siemens NX10 simulation tool.
- Tested static wing loading of ARJ-21 aircraft prior to delivery in collaboration with the manufacturing team.
- Prioritized quality and best practice implementation in all operations.
- Identified issues and areas for improvement and developed innovative and effective solutions.
- Shadowed wing assembly engineers in order to gain practical, real-world experience.

RESEARCH EXPERIENCE

Virtual Reality, Visual Cliffs and Movement Disorders   *August 2018 – December 2018*
Research Mentor: Professor Richard B. Sowers   *Illinois Geometry Lab*
- Analyzed treadmill data to investigate the relationship between visual stimuli and Parkinson's or other movement disorders.
- Tracked data from subject movements on a treadmill using Python, pandas, matplotlib, animation, and scikitlearn.
- Charted the successful development of a linear classifier classifying movement disorders of subjects by utilizing cross-functional knowledge of machine learning and time differential analysis, brings a 60 percent performance increase in classification accuracy.

RELEVANT PROJECTS

Pintos operating system project   *June. 2019 – August. 2019*
- Incorporated priority scheduler with priority donation and multilevel feedback scheduling functionality.
- Executed user programs and Linux-like Fast File System using C language.
- Ensured successful project completion by coordinating with a four-person team.
- Implemented webservers using both C and Golang and grasped features of these two languages for multi-threaded server application.

Illinifleamarket website project   *August 2018 - December 2018*
- Created a user-friendly site allowing users to post personal items, such as electronics, clothing, on-campus rentals, and vehicles, by utilizing MySQL, Python, Django framework, and Semantic UI.
- Implemented a recommendation algorithm based on weight and labels in order to align displayed items with user interests.

Unmanned Vehicle Project   *August 2018 - December 2018*
- Implemented modern control theory to control a quadrotor drone.
- Developed an unmanned quadrotor vehicle to pick up trash on the ground and dispose of it in a bin.
- Designed the vehicle to identify trash using motion sensors by modeling on MATLAB and modern control theory.

Short Haul Aircraft Preliminary Design   *January 2019 - May 2019*
- Oversee control surfaces design and cost approximation.
- Ensured successful project completion with a six-person team.
- Produced geometric drawings of control surface design and oversee the CAD modelling.
- Coordinated with the team over multiple iterations of refining the design.
- Produced an one-hundred page design document and submitted to American Institute of Aeronautics and Astronautics.

Footprint Django Website Project   *March 2021 - May 2021*
- Created a website that incorporates Google Map API, allowing users to create their travel logs by dropping markers on the map, hence creating an intuitive and easy to use travel log.
- Incorporated O-auth into the website to allow users easily sign in.
- Full-stack and agile development with a team of four.
- Implemented Follow and Unfollow, Like and Unlike, Log Bookmarking and Filtering as well as a Global Stream page by utilizing Ajax, Jquery, Javascript to allow users use social functionalities with real-time updates.

Cloud Computing Course Projects   *Feb 2021 - May 2021*
- Hands-on experience with AWS auto-scaling features utilizing Terraform to automate provisioning of resources on AWS.
- Migrating a web server from Terraform infrastructure to Amazon Lambda function to incorporate request-based auto-scaling.
- Implement a word corpus statistics generation program by utilizing Apache Spark RDDs to distribute Map Reduce workload.
- Implement and optimize a Logistic Regression Machine Learning algorithm by utilizing Apache Spark RDDs.
- Implemented various types of Kubernetes extender scheduler including FIFO, Heterogenous-resource-aware FIFO, Shortest-Job-First as well as Optimal-Utilization-Scored scheduler.

HONORS

Dean's List   ***Fall. 2017***
Dean's List   ***Spring. 2019***

ADDITIONAL

Other Technical Strengths: Django, Struts2, Spring Boot, Hibernate, Angular, Ajax, JQuery, Bootstrap4, Node.js, MongoDB, Express, Mongoose, TensorFlow, PyTorch, Linux Shell, Excel, Ubuntu, PowerPoint, Word, MySQL, Apache Spark, Kubernetes Scheduler.
Languages: English, Mandarin (native), Shanghainese
Volunteer Experience: Engineering Open House Volunteer (2016-2017)
Interests: Golfing, playing guitar, weightlifting.
International Exchange Experience: Engineering in France- ISAE-SUPAERO program in Toulouse, France during Summer, 2017.

COMPUTER SCIENCE EDUCATION, SKILLS AND EXPERIENCES

PROGRAMMING LANGUAGES: C, C++, Java, MATLAB, Python, SQL, Golang, HTML, JavaScript, Typescript, CSS, LaTeX, Apache Spark, Kubernetes.

COURSES:

Algorithm Design	Distributed System	Operating Systems
Applied Machine Learning	Parallel Computing	Data Structures
Discrete Mathematics	Data Mining	Numerical Methods
Database Systems	Computer Networks	Information Security

AWS Fundamentals: Going Cloud-Native by Amazon Web Services on Coursera.   *Sep.2019*

Accelerated Computer Science Specialization by University of Illinois Urbana Champaign:
Object-Oriented Data Structures in C++ by University of Illinois at Urbana-Champaign on Coursera.   *Oct. 2019*
Ordered Data Structures by University of Illinois at Urbana-Champaign on Coursera.   *Oct.2019*
Ordered Data Structures by University of Illinois at Urbana-Champaign on Coursera.   *Oct.2019*

Algorithm Specialization by Stanford University:
Divide and Conquer, Sorting and Searching, and Randomized Algorithms by Stanford University on Coursera.   *Dec. 2019*
Greedy Algorithms, Minimum Spanning Trees, and Dynamic Programming by Stanford University on Coursera.   *Dec. 2019*
Graph Search, Shortest Paths, and Data Structures by Stanford University on Coursera.   *Dec. 2019*
Shortest Paths Revisited, NP-Complete Problems and What to Do About Them by Stanford University on Coursera   *Dec.2019*

Full Stack Web and Multiplatform Mobile App Development Specialization by The Hong Kong University of Science and Technology:
Front-End Web UI Frameworks and Tools: Bootstrap 4 by The Hong Kong University of Science and Technology on Coursera.   *Nov.2019*
Front-End JavaScript Frameworks: Angular by 4 by The Hong Kong University of Science and Technology on Coursera.   *Jan.2020*
Front-End Web Development with React   *Jan.2020*
Multiplatform Mobile App Development with React Native   *Aug.2020*
Server-side Development with NodeJS, Express and MongoDB   *Aug.2020*

Deep Learning Specialization by Deeplearning.ai:
Neural Networks and Deep Learning by deeplearning.ai on Coursera.   *Nov.2019*
Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization by deeplearning.ai on Coursera.   *Nov.2019*
Structuring Machine Learning Projects by deeplearning.ai on Coursera.   *Nov.2019*
Convolutional Neural Networks by deeplearning.ai on Coursera.   *Nov.2019*
Sequence Models by deeplearning.ai on Coursera.   *Jan.2020*