MENGQI ZHANG
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EDUCATION

University of Richmond, Richmond, VA August 2018 - December 2021
Bachelor of Science in Computer Science, Double Major in Mathematics

- Cumulative GPA: 3.95
- Honors: Dean's List (Fall 2018, Spring 2019, Fall 2019, Spring 2020, Spring 2021, Fall 2021), "All A's" (Distinction), Phi Beta Kappa, Pi Mu Epsilon
- Courses: Data Structures, Discrete Structures, Computer Organization, Algorithms, Database, Multivariate Calculus, Linear Algebra, Fundamentals of Abstract Math, Probability, Differential equation, Abstract Algebra, Computational Modeling, Real Analysis, Design/Implement Programming Language, Human-Computer Interaction, Introduction to Data Science

EXPERIENCE

Department of Computer Science, University of Richmond, VA January 2019 - Present
Teaching Assistant, Grader

- Assist students in solving coding problems, and provide constructive feedback to correct their errors
- Grade homework and labs for students on Elementary Programming, Discrete Structures and Algorithms
- Meet with professor weekly to discuss future course improvements and areas where students had difficulty

ManyCore Tech, Inc.(KOOL), Hangzhou, China May 2021 - August 2021
Intern

- Surveyed and analyzed the traditional algorithms for motion planning and pedestrian simulation
- Conducted Probabilistic Roadmap method to create 3D random paths to avoid collisions in Koolab scenes
- Generated regional 2D Zig-Zag paths for coverage path planning with collision-free in 2 seconds

Hit Robotic Group International Institute of Research and Innovation, Hefei, China May 2020 - Nov 2020
Intern

- Performed data preprocessing to divide fabrics into four categories and conducted the traditional algorithms for image retrieval based on texture and low-level color features
- Modified methods of similarity measurement and conducted comparative experiments to analyze the difference in precision and recall between deep learning and traditional algorithms

ACTIVITIES

Predict the Impact of Placing an OPS in Philadelphia, University of Richmond, VA January 2021 - Present
Student Researcher

- Construct event-based model and time-based model to simulate the opioid use with a certain initial population and interaction between states
- Analyze the impact of Overdose Prevention Sites on reducing the number of opioid overdoses

Medial Axis Structures in Dynamic Control Problems, University of Richmond, VA May 2021 - July 2021
Student Researcher

- Investigated the mathematical properties of clearance functions associated with control problems modeling a variety of phenomena
- Derived the exact representations for collections of configurations (medial axes) where the clearance function experiences discontinuous behaviors

Chinese Students and Scholars Association (CSSA), University of Richmond, VA October 2019 - January 2021
Vice President

- Built a dynamic website for CSSA to be responsible and user-friendly with the use of HTML
- Used Figma to create a structure of the website layout and used information to build up website
- Created a database of CSSA, including procedures and data of daily work to establish network with alumni

Research with Independent Study, University of Richmond, VA January 2020 - May 2020
Student Researcher

- Analyzed group behavior in a physically-based simulation and added behaviors in a multi-agent system
- Examined oceanic oil spills through a multi-agent system to locate the contaminant sources and boundary

The Mathematical Contest in Modeling, University of Richmond, VA February 2020 - February 2020
Successful Participant

- Built a mathematical model using R to speculate the location of two fish species in the next 50 years under the impact of increasing global ocean temperature and pollution influence
- Provided operation strategies for companies by writing recommendations based on results of the model

SKILLS

Technical Skills: Java, Python, C++, R, Git, Latex, MySQL, MongoDB, HTML, JavaScript
Language: Chinese(Native), English(Fluent), Japanese(Intermediate)