Dong Jin

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Education

National University of Singapore — Singapore
Master of Computing, artificial intelligence specialization; ***GPA: 4.44/5.00*** — *Aug 2022 – Jun 2024*

Jilin University — Jilin, China
Bachelor of Computer Science (2018 Tang Ao-qing Honors Program); ***90.64/100*** — *Sep 2018 – Jun 2022*

Related Courses: Data Structures and Algorithms, Operating Systems, Computer Networks, Database Systems, Software Engineering, Distributed System, Machine Learning, Deep Learning I/II, Natural Language Processing

Skills

Frontend: JavaScript, HTML, CSS

Backend: Python, C++, Java, C#, Django, REST APIs, Postgres, SQL

AI/ML: NLP, Numpy, Pandas, PyTorch, Hugging Face, Spark, Scikit-learn, Keras, Matplotlib

Others: Docker, Git, GitHub Actions, TDD, Agile Methodologies, Azure, Unit Testing, Unity3D, Mandarin, English

Relevant Projects

Backend REST API - Recipe App API
- Primarily responsible for **backend development**, including creating user profiles, changing passwords, creating objects, uploading images, filtering and searching objects, etc.
- Set up a local development server with **Docker** and practiced **Test Driven Development (TDD)** by writing **unit tests**.
- Configured **GitHub Actions** to automatically run code checks and **unit tests**, ensuring **code quality**.

Full Stack Project - Peer-to-Peer Distributed Maze Game
- Designed and implemented a tracker to manage player registration and removal, ensuring smooth coordination among players.
- Developed player-related functionalities including the main server and backup server systems, ensuring **robustness** and **fault tolerance**.
- Implemented mechanisms to handle player crashes gracefully, maintaining game **stability**.
- Contributed to the development of a graphical user interface (GUI) using **Java Swing**, providing an intuitive player experience.

Game Development Project - Miss April's Gig Economy
- Contributed to a team of 6 in developing a 2.5D pigeon-themed game focused on monster battles and leveling mechanics. The team held 1-2 weekly discussions and utilized **Git** for version control and file management.
- Led the game map generation, utilizing a random walk algorithm for map contouring and **procedural generation techniques** for object placement in forest maps. Additionally, authored **scripts** for specific objects to enrich gameplay experience.
- Demonstrated proactive initiative by exploring various methods to enhance **enemy AI**, including **reinforcement learning**, **NavMesh**, and the **Context Steering algorithm**. Implemented the Context Steering algorithm for precise enemy **trajectory control**, complemented by the **A*** algorithm for long-distance pathfinding, while prioritizing **computational efficiency** and **scalability**.
- Achieved significant project milestones as the game evolved through three iterations, culminating in a successful final release. The project received recognition by securing the **third** position in the **23Steps competition**.

Work Experience

National University of Singapore — Singapore
Research Assistant (Part time) — *Jan 2024 – Now*
- Utilized **Python** and **Pandas** to clean and preprocess large datasets, addressing missing values, outliers, and standardizing data for analysis, demonstrating proficiency in **data manipulation** and **problem-solving**.
- Performed **data operations** and **analytics**, including filtering, sorting, and merging, showcasing strong analytical skills and **attention to detail**.
- Developed **Python scripts** to **automate workflows**, increasing efficiency and productivity, and visualized data using **Matplotlib** and **Seaborn**, highlighting ability to leverage programming for **task automation** and **data visualization**.