Haejoon Choi

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Skills

Languages: C++, Python, TypeScript, Go
Frameworks: MFC, Angular
Techniques: Large Language Models, Retrieval-augmented Generation, High Performance Computing
Tools: Git, Docker, Visual Studio, Postman, Azure DevOps

Experience

R&D Engineer II Dec 2021 – Present
Ansys, Inc., Vancouver, BC, Canada

– Working on employing Large Language Model (LLM) aimed at improving software usability. Improving the use of LLM models by applying Retrieval-augmented Generation technique.
– Participated in division-wide strategic refactoring of the codebase to enhance OS-independence. Developed proficiency in Object-Oriented Programming principles and applied them in C++ programming practices.
– Tackled the challenges presented by a substantial C++ codebase and cross-platform build processes. Working across more than 200 inter-related projects to maintain and improve the software. Developed proficiency in C++ build processes for both Windows and Linux platforms.

Software Developer Jan 2020 – Jan 2021
CAMS Software, Burnaby, BC, Canada

– Developed and maintained frontend features in Angular framework, enhancing UI for improved usability.
– Modified T-SQL stored procedures and C# backend code within the .NET environment to implement new features and data on the frontend.
– Presented on authorization tokens, demonstrating extensive research on internet standards and providing recommendations for future development.
– Engaged in daily stand-up meetings, planning, grooming, and demo sessions, contributing to project progress and fostering a collaborative environment.

Research Intern Aug 2017 – Feb 2018
General Motors Research and Development, Warren, MI, United States

– Performed structural analyses on 3D-printable fine lattice structures using GM's high performance computing system.
– Developed Python scripts to generate Abaqus input files, post-process and visualize the simulation results.

Education

Diploma, Computer Systems Technology (w/ Distinction) Jan 2019 – Dec 2021
British Columbia Institute of Technology

M.S., Mechanical Engineering (System Design and Control) Sep 2016 – Jan 2019
Ulsan National Institute of Science and Technology

B.S., Mechanical Engineering Mar 2010 – Sep 2016
Ulsan National Institute of Science and Technology

Publication

American Society of Mechanical Engineering IDETC/CIE 2019 Aug 2019
Conference Proceeding

Design of Non-Periodic Lattice Structures by Allocating Pre-Optimized Building Blocks

School Projects

Abalone AI Mar 2021 – Apr 2021
Technologies: Python, Pygame, Artificial Intelligence, Game Development

– Developed a fully-functioning Abalone game using Pygame library with AI agents utilizing heuristic evaluation function, alpha-beta pruning, and quiescence search.