

Syed Shah

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EDUCATION

B.S. Computer Science (Honors)

(Expected) Dec 2021

University of South Florida, Tampa, FL

GPA:3.98 / 4.00

Relevant Coursework: Database Design, Big Data with Hadoop, Software Engineering

SKILLS

Languages: Python, C++, Java, SQL, HTML, CSS

Technologies: PostgreSQL, Django, Bootstrap, AWS

Development Tools: Visual Studio Code, pgAdmin, Unity, GitHub

Machine Learning: OpenAI Gym, PyRep, TensorFlow, RLlib, Stable Baselines3

EXPERIENCE

Research Assistant

July 2020 - Present

Robot Perception and Action Lab, Tampa, FL

- Designed a reinforcement learning environment to train a neural network and optimized the architecture increasing successful trials from **74% to 89%**
- Analysis on data between force readings and the number of grasped object in a robotic hand utilizing Python and Scikit-Learn, which was presented in International Conference on Intelligent Robotics (IROS 2021)
- Developed the front-end and back-end for a WAMP stack web survey for hypothesis testing purposes with survey randomization for user reusability, accomplished with dynamic content management via PHP

PERSONAL PROJECTS

Conference Paper Management System - <https://github.com/MutaharS/CPMS>

- Performed requirements and design analyses to develop a web-based software system with Django for paper submission and grading of papers through a user friendly UI
- Generated entity-relationship models and optimized database architecture through normalization (3NF) to conform to standard backend design practices

Library Management System - <https://github.com/MutaharS/LibrarySystem>

- Customized table access privileges and sanitized form inputs to prevent SQL injections and enforce database integrity and security
- Decreased access times **by 87.5%** for frequently selected attributes using indexing
- Hashed user passwords prior to storage into database to secure sensitive data
- Performed robust unit testing throughout the SDLC with Git used for version control

Compiler - <https://github.com/MutaharS/DJ2DISM-Compiler>

- Developed a compiler for the Diminished Java (DJ) programming language, using Flex to generate a lexical analyzer and GNU Bison to create a parsing table
- Implemented a symbol table to check for syntax errors and a code-generator that converts abstract syntax trees into Diminished Instruction Set Machine (DISM) programs, which is a RISC-style Instruction Set Architecture

WebGL Game - <https://simmer.io/@syedshah/plip-plop>

- Created graphical assets and designed UI within the Unity engine
- Wrote scripts to handle player and non-player unit movements, collision checking, and display transitions for the user