ABHINAV GUPTA

Sophomore Year Computer Science Undergraduate at International Institute of Information Technology (IIIT), Hyderabad

Contact

+91 78939 09177
abhinav.g@students.iiit.ac.in
https://github.com/BonJovi1

Education

INTERNATIONAL INSTITUTE OF INFORMATION TECHNOLOGY | HYDERABAD
Pursuing B-Tech Honours in Computer Science and Engineering (CSE)

INDIAN SCHOOL MUSCAT | OMAN
Central Board of Secondary Education
Grade 10: CGPA 10.0/10.0
Grade 11: 97.8%
Grade 12: 93%

Technical Skills

- Proficient and experienced in C, C++, Python3
- Decently experienced with JavaScript, HTML, CSS, MATLAB, Flask, OpenGL 3.0, SQLAlchemy
- Other tools/languages: Golang, ReactJS, Flask, Bash shell scripting, Assembly, Bluespec, Neo4j, Lucene

Achievements

- Perfect scores (800/800) on the SAT Subject Tests (Physics, Chemistry and Mathematics)
- Finalist, Listen Up! Elocution Contest, The Muscat Daily, 2014
- Skilled Drummer, Amateur Guitarist and Overall Head, The Music Club, IIIT, Hyderabad
- Freestyle Swimmer, CBSE Oman Clusters, 2014

Work and Research Experience

RESEARCH ASSISTANT | ROBOTICS RESEARCH CENTER

April '19 - Present
Working on Simultaneous Localisation and Mapping (SLAM) algorithms for autonomous drone navigation, using Deep Learning and Robotic Vision.

SOFTWARE ENGINEERING AND RESEARCH INTERN | THE VIRTUAL LABS

August '18 - January '19
Developed full-fledged experiments and built interactive artefacts for various data structures and algorithms at The Virtual Labs, a social initiative of the Government of India.

Major Projects

- **AI TIC-TAC-TOE BOT**

Built a bot for a 3*3 Tic-Tac-Toe board, further divided into more 3*3 blocks using Artificial Intelligence and Decision Theory, using search algorithms with an optimal heuristic function.

- **LINUX SHELL**

Implemented a Linux Bash Shell, a command line interpreter in C. Supports many bash commands with piping, redirection, foreground and background processing.

- **PIPELINED PROCESSOR**

Simulated an architectural model and design for a computer processor in Bluespec System Verilog (a hardware description language) as part of the Computer Systems course, based on the RISC-V instruction set architecture.

- **EPIPHANY: A WEB APPLICATION**

Built a quizzing web-application with an interactive front-end in ReactJS and a Golang server at the backend. Implemented something similar in Flask and SQLAlchemy as well.

- **INTERACTIVE GAMING IN OPENGL 3.0**

Built a 2D arcade game and a 3D flight simulator game in OpenGL 3.0 using texture mapping, projections, rasterisation and lighting. The games support multiple camera views for a great gameplay. Built a similar terminal based rendition of Mario in Python3, and a replica of Space Invaders in Pygame.

Relevant Courses

**Pursuing in Monsoon '19*

- Data Structures & Algorithms
- Operating Systems
- Software Systems
- Linear Algebra
- Database Systems
- Computer System Architecture
- Artificial Intelligence
- Digital Signal Processing
- Mobile Robotics*
- Computer Networks