Kushagra Gupta

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Education

Master of Science in Computer Science, May 2021, GPA 3.23/4.00
The University of Texas at Dallas, Richardson

- Machine Learning, Data Structures and Algorithms, Human-Computer Interaction, Virtual Reality, and OS Concepts.

Technical Skills

Languages: Java, C#, JavaScript, Python, C, HTML5, CSS3, SAAS, XML
Frameworks/Libraries: Spring Boot, ASP.NET, ReactJS, NodeJS, ExpressJS
Web Development: JQuery, Ajax, JSON, JSP, Servlets, Bootstrap, MVC, REST API
Database/Servers: MySQL, MongoDB, Tomcat
Tools/OS: Linux, Unity (VR), Git, npm, Eclipse, Visual Studio, PyCharm, Jupyter
Processes: Agile model, Test-driven development, CI/CD

Projects

Human-Computer Interaction, Spring 2020

- Rebate Form – Architected a user-centric windows form application. Refined the UI for fast data entry. Applied OOP techniques and programmed the backend for File I/O, validation and feedback. Implemented List for data handling.
- Rebate Form Analytics – Programmed an application for Experimental UX analysis. Analyzed min., max. and average data entry time for fields, for one record, and between subsequent records, and back keypress count for multiple users.
- C#.NET, Visual Studio, Git

Machine Learning, Spring 2020

- Implemented the ID3 algorithm to learn decision trees. Used scikit-learn to learn a decision tree for the Haberman Survival dataset (UCI) and visualized it through graphviz. (Python, Scikit-Learn, PyCharm, Jupyter)

Virtual Reality, Spring 2020

- Created a realistic VR environment. Implemented 3D travel techniques and integrated 3D sound using Steam API and VRTK. (C#, Unity, VRTK, HTC Vive, Oculus Rift, 3ds Max)

Data Structures and Algorithm Analysis, Fall 2019

- Implemented a sorting algorithm for Linked List, a Binary Search Tree, Heap Sort algorithm, Dijkstra's algorithm, Topological ordering algorithm, and a Hash Table to program a Spell Checker, implementing OOP techniques, in Java.

Operating System Concepts, Fall 2019

- Seeking Tutor Problem – Coded a multi-threaded program in C. Implemented a Priority Queue, Stack, and Locks using semaphores. (C, Pthread library, Vi editor, VS Code, Linux, Git)
- File System Checker – Implemented the Depth-First-Search algorithm to traverse the directory. Wrote a method to extract the on-disk bitmap. (C, gdb, QEMU, Vi editor, VS Code, Linux, Git)
- Implemented the Lottery Scheduler algorithm in xv6 kernel. (C, gdb, Vi editor, QEMU, Linux)
- Unix Shell – Programmed a terminal with advanced functionalities like executing parallel commands, File I/O, etc. along with excellent error handling. (C, gdb, VS Code, Linux, Git)

Personal Projects

- Deployed an online chatting application. Implemented the MVC model and REST API. (ReactJS, ExpressJS, NodeJS, MongoDB, JavaScript, Bootstrap, HTML5, CSS3, npm, REST Client, Git)
- Student Catalog – Applied OOP concepts to program a responsive web application for providing CRUD functionality for handling student profiles. (Java, JSP, Servlets, JDBC, MySQL, JavaScript, Bootstrap, HTML5, CSS3, Tomcat, Eclipse, Git)

Extra-Curricular Activities

- Full Stack Developer online learning path, LinkedIn Learning, January 2020 – present.
- Successfully completed Web Application Design workshop at UT Dallas, August 2019.
- An active member of ACM, AI Society and UX Club at UT Dallas, August 2019 – present.
- Volunteered at 'Social Service Fair' hosted by United Way in Visakhapatnam, October 2018.
- 240 hours of Social Service as NSS (National Service Scheme, Govt. of India) Volunteer, August 2015 – May 2017.