Riya Dheer

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Education

University of Washington, Seattle — WA, USA
Bachelors in Computer Engineering; GPA:3.67/4.0 — *March 2023*
Selected Coursework - Foundations of Computing; Hardware/Software Interface; Technical Communication; Machine Learning; Software Engineering; Data Management; Computer Security; Autonomous Robotics

Work Experience

GamePlay, Inc. — USA
Website Developer — *July 2023 - Present*

- Increased Website Performance from **51** to **79** points (tested by Google Lighthouse) by implementing image optimization and JavaScript text compression. Working to increase Performance by reducing display times.

Amazon — Seattle, WA, USA
Software Development Engineer Intern — *June 2022 - October 2022*

- Increased recall value by **10%** of Machine Learning model, used to associate correct brands to products, by optimizing inverted index generation and querying codebase (Scala & Apache Spark).
- Worked with AWS technologies: DynamoDB, S3, EMR cluster & lambda
- Displayed Ownership by optimizing existing algorithms and updating the 'new hire' guide for future interns.

GamePlay, Inc. — USA
Website Developer Intern — *September 2021 - October 2021*

- Designed website using Model-View-Controller and programming in C# on .NET core.
- Created UI in HTML,CSS (view), model to store data in PostgreSQL and controller to process inputs.

Paul G. Allen School of Computer Science & Engineering — Seattle, WA, USA
Computer Science Teaching Assistant — *September 2020 - March 2023*

- Taught the design and implementation of functional programming languages (OCaml & Racket).
- Taught Java: file processing; classes and objects; recursion; arrays; stacks; queues; linked lists; binary trees.
- Strengthened leadership skills by holding sections to teach and office hours for students' queries.
- Improvised debugging strategies by grading assignments and coding skills by designing exam questions.

Projects

PyTorch: Python — *February 2022, UW*

- Explored PyTorch's nn module by implementing linear layer with activation functions - ReLU and sigmoid.
- Implemented loss functions - Mean Squared Error (Regression problems) & Cross Entropy (Classification).
- Developed proficiency in optimizing neural networks using Stochastic Gradient Descent (SGD) algorithm.
- Project culminated in a hyperparameter search using various architectures on an XOR function dataset, where I trained models, recorded losses, and evaluated accuracy.

Database Flights' Application & Transaction Management: Java & SQL — *November 2021, UW*

- Implemented working prototype of flight booking application connecting the database in Azure and allowing customers to use Command Line Interface to log in, search, book flights and get their reservations' list.

Software Design and Implementation: Java & React — *Summer 2021, UW*

- Designed and implemented graph ADT using adjacency list, with functionalities such as adding/deleting nodes/edges. Employed it to get shortest path between 2 UW buildings. Used react for web browser's GUI.

Systems Programming: C & C++ — *Summer 2021, UW*

- Implemented server side programming to create a website that takes in query and displays the list of all files and websites containing it and their query counts. Linked lists and hash tables were used for storing data.

Data Structures and Parallelism: Java — *March 2021, UW*

- Implemented the project using forkjoin and threads, that calculates the population of all census groups falling in a particular grid (by passing in west, east, north and south parameters) of USA map.