Sushan Manandhar

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Education

Idaho State University
📍 Pocatello, ID   2018 - 2023

Bachelors of Science in **Computer Science**

Languages

Python   C#   Java   C++   SQL   Assembly

Certifications

Full Stack Software Developer Assessment | IBM | Coursera

- Successfully showcased mastery of skills and knowledge obtained through the IBM Full Stack Software Developer Professional Certificate, encompassing a comprehensive understanding of common technologies related to full-stack, front-end, and back-end application development.
- Proficiently explained concepts in cloud computing, web development, HTML, CSS, JavaScript, GitHub, Python, Django programming, microservices, and containers while effectively analyzing and troubleshooting issues in software design, development, deployment, and operations.

Python for Data Science, AI & Development | IBM | Coursera

- Achieved a strong grasp of Python Basics, covering data types, expressions, variables, and data structures, while showcasing proficiency in Python programming logic with the application of branching, loops, functions, objects, and classes. Demonstrated expertise in utilizing essential Python libraries such as Pandas, NumPy, and Beautiful Soup for efficient data manipulation and analysis. Additionally, successfully accessed web data through APIs and performed web scraping using Python in Jupyter Notebooks.

Developing Front-End Apps with React | IBM | Coursera

- Proficiently developed interactive UIs and web applications using React, JSX, and ES6, building dynamic websites and front-end applications with reusable React components, while effectively communicating and exchanging data through HTTP methods and employing key React concepts and features.

Introduction to Web Development with HTML, CSS, JavaScript | IBM | Coursera

- Explored the Web Application Development Ecosystem, including terminologies like front-end, back-end, server-side, and full stack, while identifying developer tools and IDEs. Created structured web pages with HTML and CSS, and developed dynamic, interactive web pages using JavaScript.

Introduction to Cloud Computing | IBM | Coursera

- Accomplished comprehensive understanding of cloud computing, including its definition, characteristics, history, business case, emerging technologies, service models, deployment models, and key trends. Analyzed services from top cloud platforms, fostering expertise in the field.

Getting Started with Git and GitHub | IBM | Coursera

- Excelledversion control's significance in social coding and DevOps, explaining fundamental Git concepts. Showcased practical skills in creating GitHub repositories, performing pull requests and merges for collaboration, and contributed to open-source projects for personal growth.

Technologies

React   JavaScript   Django   AWS   .NET

Gradle   Docker   Version Control   IBM Cloud   ES6   JSX

Professional Experience

Undergraduate Teaching Assistant
Idaho State University   📍 Pocatello, Idaho
                                               Aug 2021 - May 2022

Moodle   MS Word   PowerPoint

- Assisted in classroom management, including organizing materials, setting up equipment, nd addressing student questions and concerns in an entry-level computer science class.
- Provided academic support by conducting help sessions, assisting with programming assignments, and offering constructive feedback to students, contributing to their learning and success.

Projects

ARM 360 Emulator   C++   Qt   Assembly   Java   SceneBuilder   Agile   May 2023

- Collaborated with colleagues to develop a C++ based Assembly Language Simulator.
- Designed and implemented real-time Computation features using C++ and Qt.
- Implemented the Java/Scene Builder based Assembly Simulator to C++/Qt based Assembly Simulator.

Shortest Path Calculator   Python   Graph UI   XML   April 2021

- Implemented Dijkstra's algorithm efficiently to find the shortest paths in a graph.
- Developed two versions of a priority queue class: one using an unsorted array and the other using a heap, with optimized time complexities for insert, delete-min, and decrease-key operations.
- Utilized a binary heap implementation with a separate array/map for fast access to arbitrary nodes, maintaining $O(\log|V|)$ time complexity for all operations.

New Music From Bach Chorales Dataset   Python   Google Collab   kaggle   2022

- Applied Neural Networks with TensorFlow 2 and Keras, including recurrent neural networks (RNNs),
- Successfully generated music by implementing a feedback loop in the model, feeding predicted and previous chords to generate subsequent chords, resulting in the creation of original "chorales" using the initial chords from the test set.
- Accomplished the conversion of tokenized chords back into their original form and effectively utilized player functions by feeding them with the converted chords, enabling seamless playback of the generated music.

Cats And Dogs Dataset Using CNN   Python   Google Collab   kaggle   2022

- Accomplished the development of a high-performing dog/cat classifier by leveraging the Cats and Dogs dataset from Kaggle. Conducted comprehensive data wrangling, preprocessing, and data augmentation, while exploring different CNN architectures and parameters to optimize the model.
- Demonstrated significant success in model training and validation, achieving an impressive 97% accuracy. Visualized the training and validation accuracy per epoch for the best-performing model, showcasing the effectiveness of the implemented techniques and methodologies.

Web-Based Tic-Tac-Toe App   HTML   CSS   JavaScript   May 2023

- Designed and Implemented Tic-Tac-Toe Game
- Implemented the Back-end using JavaScript

References

Tony Lovgren	Paul Bodily, Ph.D.
Former Deputy & Associate Chief Information Officer	Assistant Professor of Computer Science Department
Idaho State University	Idaho State University
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Abdul Khalil Azizi	Saurav Gautam
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