Kavin Suraj Jeyasankar

linkedin.com/in/kavinjey | 720-757-9729 | kavin11205@gmail.com | Highlands Ranch, CO

Skills

- C++ | Java | Python | C | C# | matplotlib | SQL | TensorFlow | pandas | NumPy | scikit-learn | HTML
- CSS | Unit testing | JFrame | Junit | Unity2D | Game Development | Object Oriented Programming
- SolidWorks CSWA | Data Processing

Experience

Undergraduate Software Engineer Research **CSMGem** **08/2023 - Current**

- Designed and modernized one-of-a-kind software used to predict stability of hydrates in nature using the latest technologies available with C++ version 20.
- Significantly optimized existing software through the integration of new C++ versions to bring runtimes down to a fraction of previous versions.
- Improved software readability and modularity for the implementation of future features as the science behind hydrates is further researched.
- Continuous code reviews, professional benchmarking/unit testing frameworks, compile time evaluations leveraged to produce optimal results for industry success.

Mentor **FTC Robotics** **09/2021 – 04/2022**

- Lead the team to 2nd place in the state championship while teaching path following algorithms and frameworks such as pure pursuit as well as Java programming principles.
- Utilized real-time computer vision such as OpenCV to improve special awareness and performance of our robot.
- Implemented odometry to significantly improve position accuracy with variation per run going from an average of 11.8 inches to 3.4 inches, an improvement of 71%.

Projects

AI Board Game (~7000 lines) - Java

- Designed and developed Clue board game with clean and complete UI as well as clean and modular code with the implementation of SOLID programming principles.
- Used JFrame to implement graphics, movement animations and button functionality.
- Created artificially intelligent computer players to make smart decisions derived from human players movement, accusations, and suggestions.
- Implemented Junit to ensure functionality of the code throughout the development process. SOLID programming principles were utilized for object-oriented design.

Parallel ZIP (~500 lines) – C

- Program inputs a large string and outputs a compact version of the same string with character counts with the utilization of multiple threads to improve efficiency.
- Array was split into equal parts with each part being processed in parallel with different threads to ensure performance standards are met.
- Memory allocation and deallocation was strictly kept track of to ensure memory safety when creating and accessing arrays in C.

Data Science/ML Portfolio – Python

- Portfolio of approximately 20 projects exploring datasets obtained from data science platforms.
- Utilized different data processing algorithms such as K-Means, Random Forest Classifier, Decision Tree Classifier, Linear Regressions, etc.
- Developed a strong understanding of gathering, interpreting, cleaning, organizing, analyzing, and visualizing data and data manipulation through the use of machine learning toolkits like scikit-learn.

Education

Bachelor of Science **Colorado School of Mines** **Golden, CO, USA** **08/2021-05/2025**

- Major: Computer Science GPA: 3.517

Relevant Coursework

- Operating Systems | Data Structures and Algorithms | Software Engineering | Intro to Linux OS
- Data Science | Discrete Math | Calculus I, II, III | Linear Algebra | Differential Equations
- Principles of programming languages (OCaml) | Computer Organization