Kartik Alle

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Education

North Carolina State University Raleigh, NC

Bachelor of Sciences in Computer Science, Bachelor of Sciences in Mathematics *Aug. 2022 – Present*

- Related Coursework: Intro to Computer Science, Software Development Fundamentals, Discrete Mathematics, Linear Algebra, C/Software Tools, Data Structures and Algorithms, Mathematical Foundations of Data Science, OS/Networking, Automata/Grammars/Computability

Experience

Optum June 2021 – July 2021

NAFTrack Intern *Remote Internship*

- Designed a tailored patient management system for nursing homes, optimizing healthcare operations
- Utilized established product development frameworks, blending strategic methodologies and innovative approaches to conceive, design, and deliver a highly effective and impactful product
- Delivered project presentations to senior executives, fostering interactive discussions and gaining valuable feedback for project enhancement

Projects

Classification of Mushrooms under Various Algorithms | *Python* March 2024 – April 2024

- Conducted research to classify mushrooms as edible or poisonous using various machine learning algorithms.
- Implemented artificial intelligence techniques, including neural networks, Support Vector Machines (SVM), and logistic regression models, to analyze and classify mushroom characteristics.
- Leveraged techniques in data processing, model design, and model evaluation to achieve accurate classification results.
- Utilized Python libraries such as scikit-learn and TensorFlow for data analysis and model development.

PackScheduler | *Java, Eclipse, JUnit, Git/GitHub, Eclipse Plugins* January 2023 – May 2023

- Developed and implemented a student course registration software enabling students to manage their course schedules while providing faculty with real-time enrollment data
- Utilized test driven development principles to ensure accuracy and coverage in code
- Implemented various software development design patterns such as state, adapter, iterator, observer, and strategy
- Made substantial contributions to and actively maintained a large codebase on GitHub, employing effective version control practices

Light Bender | *GameMaker, GML* January 2023 – April 2023

- Designed and developed an engaging educational computer game tailored to elementary and middle school students, providing an effective and enjoyable introduction to the principles of light physics
- Utilized GML and GameMaker Lite to implement advanced light physics simulations, including reflection, refraction, and mirror interactions
- Worked collaboratively with a team to conceive and develop an educational gaming experience that offers both challenge and learning opportunities
- Showcased the game at an engineering fair to collect insightful feedback from judges

The Bouncers | *C++, Arduino IDE* June 2021 – July 2021

- Created a capacity monitoring system utilizing an Arduino Uno board and ultrasonic distance sensors. This system effectively tracks the flow of customers, determining if the store has reached its capacity to ensure safe distancing during the pandemic
- Enabled real-time data transmission to the internet, allowing store owners to effortlessly monitor in-store traffic levels and analyze trends in customer occupancy
- Engaged with a team to collaboratively design and produce a working prototype

Technical Skills

Languages: Java, Python, C/C++, HTML/CSS, LaTeX
Developer Tools: Git/GitHub, VSCode, Eclipse, Checkstyle, PMD, JUnit, Jenkins, Command Line Tools
Certifications: Microsoft Word and PowerPoint 2013