RISHAV BHAGAT

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I am a senior student in high school seeking an internship position where I can utilize and enrich my computer science knowledge and work with new cutting-edge technology.

EDUCATION

SOUTH BRUNSWICK HIGH SCHOOL; GEORGIA INSTITUTE OF TECHNOLOGY
HIGH SCHOOL GRADUATE YEAR: 2020
HIGHSCHOOL GPA: 4.39 (Weighted); 3.94 (Unweighted)
AWARDS AND ACHIEVEMENTS: National AP Scholar; Scored 5 on eight Math, Physics, and Computer Science AP Exams; Scored 800 on both Mathematics Level II and Physics Subject SATs
ADVANCED COURSES: Artificial Intelligence, Computational Physics, Data Structures and Game Design, Mobile Application Development, AP Computer Science, Analysis, Differential Equations and Complex Analysis, Multivariable Calculus and Linear Algebra, Modern Physics, AP Physics C

SKILLS

LANGUAGES: JavaScript, NodeJS, Python, Java, C++, C#, C, Swift, HTML, CSS
FRAMEWORKS: React, React Native, Angular, Express
CLOUD SERVICES: Firebase, Google Cloud, AWS
TOOLS: Android Studio, Eclipse, InteliJ, Visual Studio, Visual Studio Code, Unity, Vi, Atom, PyCharm, XCode
CERTIFICATIONS: Google Analytics, Google Ads Fundamentals, Andrew Ng's Machine Learning

PROJECTS

COVID-19 DATA ANALYSIS
https://github.com/rishavb123/COVID-19-data-analysis | /readme/main.pdf
Developed python software to analyze the John Hopkins COVID-19 dataset and used this software to gain insights on the trends in the data, on both global and smaller scales. Created graphs and visualizations of the data using matplotlib. Applies many different modelling techniques such as RNNs, Circuit Models, Logistic Models, Markov Chains, Gradient Descent and more. Wrote a report on the data analysis using latex to explain the mathematics, modelling, and insights.

SOLVING SCHRODINGER'S EQUATION WITH DEEP LEARNING
https://github.com/rishavb123/QuantumPhysicsWithDeepLearning
Solves Schrodinger equation in an asymmetric (defined by a function within the well) infinite quantum well numerically using the Runge-Kutta method. Using sample points from the well as inputs and points from the solved wavefunction as outputs, a neural network approximates solutions at a faster speed. Uses Fourier smoothing on wavefunctions to create more realistic wavefunctions.

DEEP Q LEARNING LIBRARY
https://github.com/rishavb123/DeepQLearningLibrary
Built a deep Q neural network class using TensorFlow and python. Used Deep Q Learning techniques such as a Replay Buffer, Target Networks, etc. Applied deep Q learning algorithm in another file to create agents to learn in an environment. Created custom environment system so that the agents can learn in any environment, either created by me or an Open AI Gym environment.

VIKING TUTORS
https://github.com/rishavb123/VikingTutors | https://vikingtutors.org
A platform for South Brunswick students to view personalized learning material such as videos, zoom livestreams, and presentations made by South Brunswick personnel. Created with Firebase Cloud Firestore and the YouTube Data API for data and video storage.

3D MAZE PROGRAM
https://github.com/rishavb123/3DMazeGame
A program that reads in a maze design from a text file and then displays the maze in 2D and 3D. The user can move using arrow keys or through a website served by a Java HTTP server built using TCP sockets. Implemented an AI agent using a reinforced learning algorithm called value iteration that finds the most efficient path through the maze even through traps and portals.

LEADERSHIP & EXPERIENCE

BLOOMBERG LP ENGINEERING INTERNSHIP (July 6th, 2020 – August 28th, 2020)
An engineering internship conducted by Bloomberg's datacenter in Dayton, NJ. I worked with the Data Retention Engineering team to help optimize the workflow of the company by reducing ticket noise through automated python scripts.

COMPUTER SCIENCE CLUB OFFICER (September 2016 – June 2020)
Instruct students on how to code HTML, CSS, JavaScript, and Python and manage the backend applications of the club.

HACKSB ORGANIZER (April 2016 – June 2020)
Conduct a hackathon through Computer Science Club at South Brunswick.

NETELIXER INTERSHIP (June 2019 – August 2019)
Developed an AI Game to exhibit capabilities of AI tools (http://aigame.bhagat.io), and received training in Statistics and Forecasting, SEO Strategy and Content Development, Modern Paid Search Strategy, and Social Media Marketing.

MARTIAL ARTS (2009 – Current)
Second-degree black belt; Part-time instructor (October 2019 - Current) where I teach the curriculum and values of MPAMA.