Navein K. Suresh

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Education

University of California, Berkeley May 2024
B.A. Applied Mathematics, Computer Science *Berkeley, CA*
Coursework: Quantum Computing Fundamentals & Applications (IBM sponsored), Blockchain Fundamentals, Structure/Interpretation of Computer Programming, Linear Algebra & Differential Equations, Calculus I, II, III
Activities: Quantum Computing @ Berkeley, Competitive Programming @ Berkeley, CS Undergraduate Association
Awards: Eagle Scout (BSA), VEX Robotics State & National Qualifier, Presidential Volunteer Service Award (Gold)

Experience

Software Engineer Intern September 2022 - Present
Geopogo *Berkeley, CA*
- Software development project in augmented reality centered around user experience; acquiring user feedback and translating into data management software; tools used include: AWS, Unity, and C#.

Undergraduate Researcher August 2022 - Present
Space Sciences Laboratory *Berkeley, CA*
- In collaboration with the NASA MMS (Magnetospheric MultiScale) Mission, currently developing a software tool (Python) and a GUI for data visualization and selection of transmitted data (extension of PySPEDAS library); Advisor: Dr. Mitsuo Oka, Physicist @ Space Sciences Lab

Research Assistant December 2020 – May 2022
Ursinus College *Collegeville, PA*
- Conducted mathematics research with Professor Nicholas Scoville of Ursinus College and PhD student Julian Brüggemann of the Max-Plank-Institute of Mathematics at University Bonn, Germany
- Research was centered at the intersections of Graph Theory, Discrete Morse Theory, and Topology
- Explored and proved properties of merge tree transformations through the use of Discrete Morse Functions; wide applicability in areas of neural networks and theoretical computer science

Policy & Research Intern May 2021 – August 2021
Pennsylvania State Legislature - House of Representatives (Rep. Joseph Webster) *Royersford, PA*
- Analyzed economic models to improve environmental policy (rainwater recovery legislation tax incentives)
- Quantitative optimization analysis were used to develop fair redistricting models for state electoral maps

Vice President & Director of Mathematics March 2020 – June 2022
StartOnAI *San Francisco, CA*
- Designed various math/programming content related to the fields of machine learning and deep learning
- Co-authored a comprehensive textbook on machine learning and deep learning (reviewed by Amazon AWS VP)
- Helped host an AI/algorithms seminar at the international virtual Global Nagpur Summit (India)

Projects

The Game of Hog | *Project Details* August 2022 – September 2022
- Developed a simulator using python and programmed multiple strategies for the dice game Hog; implemented control statements and higher order functions; check *Project Details* for specific rules and situations

Cerbo | *Documentation* September 2020 – November 2020
- Cerbo is a high-level API wrapping Scikit-Learn, Tensorflow, and TensorFlow-Keras that allows for efficient machine learning and deep learning modeling and data preprocessing while enjoying large layers of abstraction

AI Textbook | *A Guide to Machine Learning, Deep Learning, and their Applications* June 2020 – August 2020
- The tutorial-style publication allows the reader to explore the topics ranging from linear algebra, python, and data structures to machine learning algorithms, convoluted neural networks (CNN) and reinforcement learning

Technical Skills

Software Languages: Python, Qiskit, C++, HTML/CSS, LaTeX, Microsoft Office
Developer Tools: Visual Code Studio, Git, GitHub, PyCharm
Libraries: Pandas, NumPy, Matplotlib, Sklearn, Scipy
Interests: Tennis, Chess, Sudoku, Nature