Praveen Vijayakumar

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Education:

University of Illinois at Urbana-Champaign ***Expected May 2027***

Bachelor of Science in Bioengineering & Minor in Computer Science (Switching to Statistics+Computer Science) ***GPA: 3.98***

Relevant Coursework:

Intro to CS I (Java + Android Studio), Intro to CS II (C++), Discrete Structures (CS), Differential Equations, Statistics and Probability, Multivariable Calculus, Linear Algebra

Skills:

Java, Python, R, C++, Android Studio, CSS, HTML, JSX, React-Native, MATLAB, Flask, Seaborn, Matplotplib, Pandas

Activities:

Illinois Statistics Datathon 2024 **March 2024 (Urbana, IL)**

- Built a Decision Tree Classification Algorithm to help Synchrony Financial maximize their Automated Caller Response (IVR) system's ability to resolve caller issues without sending the calls to representatives
- From a dataset of caller information (i.e. account delinquency, questions asked by the automated caller response system, etc), we calculated the probability of different responses the IVR is programmed to give and using the Decision Tree model, suggested the best questions to ask next in order to best resolve the caller issue without a representative

Relevant Experience:

Full Stack @ Illinois Medical Advancements Through Design and Engineering (Stethopy) ***Sep 2023 - Present (Urbana, IL)***

- Developing an app, using Flask backend, SQLAlchemy Database, React Native for UX/UI, Expo for building/testing/staging app, to be used in concert with a digital stethoscope that will record heartbeats, lung sounds, gastrointestinal sounds, etc for use in telehealth
- Leveraging PyAudio, MatPlotlib, and numPy to process audio data from digital stethoscope and provide visualization for doctors to make an efficient diagnosis
- Utilizing React-Native framework to build Frontend for app that acts as an interface for heartbeat measurements through telehealth and provides patients step-by-step directions to record their heartbeat
- Incorporating ML model (RNN) to check for irregularly patterned heart recordings to assist in diagnosis of pattern-based heart diseases like arrhythmias
- Pitched Stethopy at EOH and COZAD and won grant

Computational Neuro Oncology Researcher @ Kumar Lab UIUC ***Aug 2023 - Present (Urbana, IL)***

- Leveraging Bioconductor (R), pheatmap, and other statistical data visualization libraries to clean and analyze differential gene expression data from different gene sequences encoding metabolite expression in Glioblastoma-affected cells vs normal cells
- Building phylogenetic trees (ancestral graphs) based on genetic makeup of glioma related cells and analyzing relationships between different types of cells
- Studying Blood Brain Barrier and role astrocytes, microglia, and neurons play in the development of glioblastoma

ML/AI Engineer @ Inspirit AI ***Summer 2022 (Remote)***

- Leveraged numPy, Seaborn, sklearn, pandas, Matplotlib to both predict the geographical origin of a specific COVID virus based on its gene sequence and diagnose skin cancer from images of lesions
- Learned general AI & ML, such as Neural Networks, Regression Techniques, Training/Testing models