Siddhanth Kumar

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Education

Purdue University — **West Lafayette, Indiana**
- *Bachelor of Science in Computer Science* — *June 2027*

Northwood High School — **Irvine, California**
- High School Diploma — August 2018 – June 2022
- Relevant Coursework: AP Computer Science A, AP Computer Science Principles, AP Calculus BC

Experience

Yamaha Motor Corporation — **West Lafayette, Indiana**
Data Science Researcher — *August 2023 – Present*
- Conducted comprehensive analysis of key performance variables from YPPI's investment casting foundry, identifying opportunities to improve factory efficiency, reduce scrap rates, and decrease equipment downtime
- Developed and executed data collection and smoothing strategies to gather information from 5000+ data points, resulting in a comprehensive dataset for the PowerBI dashboard.

University of California, Irvine — **Irvine, California**
Research Intern — *June 2021 – June 2023*
- Launched a full-stack mobile application using React-Native, PostgreSQL to to harvest user communications metadata
- Developed a REST API using ExpressJS and Docker to store data from mobile systems
- Analyzed data using personal network graphs and a custom "interaction factor" to plan interventions for the elderly in case of social isolation

Projects

MelaNoMore — **Irvine, California**
React-Native, Javascript, TensorflowJS, OpenCV, Keras — *June 2022 – Aug. 2022*
- Programmed a full-stack mobile application using in-built phone camera to detect melanoma through skin moles
- Developed and deployed a 3D convolutional neural network using TensorFlow and Keras, achieving a **testing accuracy of 90% for binary image classification.**
- Implemented a data preprocessing pipeline using OpenCV to handle image augmentation, normalization, and resizing, resulting in improved model performance by **reducing overfitting by 20%.**

Sunspotter — **Irvine, California**
Python, NumPy, pandas, tqdm, seaborn, matplotlib, sklearn, PyTorch — *July 2022 - Aug. 2022*
- Created a recurrent neural network using an LSTM model with 512 hidden layers, **improving prediction accuracy by 13% compared to previous models.**
- Implemented a stateless architecture with forward propagation and backpropagation, resetting memory after each batch, resulting in **faster processing times and improved overall efficiency of the model.**
- Capstone project as a part of Physics 77: Introduction to Computational Physics at an UC Berkeley Summer Session

Awards

SB Hacks — **Santa Barbara, California**
First Place among 150 college students, App: Tablify — *May 2023*
- Built an automatic tab sorter including natural language processing and a sentiment analysis algorithm
- Connected extension to AWS Dynamo DB to sort tabs by academic subject (Math, Biology, CS)
- Final model has high accuracy (83%) and is lightweight enough to run and sort tabs in real time

Skills/Interests

Languages: Java, Python, SQL (Postgres), JavaScript, HTML/CSS, PHP, C++
Frameworks: React, React-Native, Node.js, Flask, SASS, WordPress, Material-UI, RapidAPI, Express, Flutter
Developer Tools: Git, Docker, Android Studio, Google Cloud Platform, VS Code, Visual Studio, PyCharm, IntelliJ, Eclipse,
Libraries: pandas, NumPy, Matplotlib, Tensorflow, scikit-learn