

# Siddhanth Kumar

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## Education

### Purdue University

- Bachelor of Science in Computer Science

West Lafayette, Indiana

June 2027

### Northwood High School

- High School Diploma
- Relevant Coursework: AP Computer Science A, AP Computer Science Principles, AP Calculus BC

Irvine, California

August 2018 – June 2022

## Experience

### University of California, Irvine

#### [Research Intern](#)

Irvine, California

June 2021 – June 2023

- Launched a full-stack mobile application using React-Native, PostgreSQL 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

### [TFTI - Thanks for the Invite](#)

React-Native, Javascript, Firebase, Google Places API

Irvine, California

July 2022 – Oct. 2022

- Programmed a full-stack mobile application and event management system to provide a hub for social events

### [MelaNoMore](#)

React-Native, Javascript, TensorflowJS, OpenCV, Keras

Irvine, California

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](#)

Python, NumPy, pandas, tqdm, seaborn, matplotlib, sklearn, PyTorch

Irvine, California

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

### [Memgen](#)

ExpressJS, OpenAI, Firebase Admin, Auth0, Cohere, Google Cloud, Axios, NextJS, React

Irvine, California

May 2023

- Developed an Intelligent Vector-Based Cover Letter Creator to create curated cover letters based on prior experiences

## Awards

### SB Hacks

First Place among 150 college students, App: [Tablify](#)

Santa Barbara, California

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