

# Sai kumar Murali krishnan

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Machine Learning Engineer

## EDUCATION

### Monash University

Expected December 2023

*Bachelor of Applied Data Science Honours*

*Melbourne, VIC*

- WAM/GPA: 86
- Achievements: Dean's List Award for academic excellence, Summer and Winter Research scholarships

## EXPERIENCE

### Machine Learning Engineer Intern

November 2022 – February 2023

*Canva*

- Developed a debiasing framework for StableDiffusion, a state-of-the-art text to image model
- Conducted research and implemented solutions to mitigate bias in the outputs generated by StableDiffusion, specifically addressing harmful and nonrepresentative biases in sensitive categories such as gender and ethnicity

### Data Science Intern

July 2022 – October 2022

*DiGiCOR*

- Managed a team of four to build a sales data analysis dashboard using Streamlit, integrating data from NetSuite's REST API to boost productivity

### Winter Research Assistant

June 2022 – July 2022

*Monash University*

- Developed a genetic programming framework using simulation in Julia to address a game theoretic problem [here](#)
- Collaborated with a professor to study journal dynamics in the field of science using the framework

### Summer Research Assistant

November 2021 – January 2022

*Monash University*

- Parsed and analyzed commit data from over 30,000 deep-learning libraries using GitHub's REST API and Python
- Implemented extraction, tagging, and analysis techniques to understand the evolution of popular deep-learning libraries, utilizing spaCy for NLP processing

## COMMUNITY & LEADERSHIP

### President

March 2021 – Present

*Monash Association of Coding (MAC)*

- Conducted 4 successful coding workshops in Python, covering topics such as FastAPI, discord.py, and web development, reaching over 200 attendees
- Led 15 weekly mock technical interviews with LeetCode, preparing students for software-development roles
- Organized and oversaw MAC x Hacksprint, a two-week hackathon attracting more than 200 participants

## PROJECTS

**project-maidenless** | *Streamlit, GPT2, Natural Language Processing (NLP), Transfer Learning*

**GitHub**

- Created a Streamlit application that infers a fine-tuned version of GPT2 on two university love letter pages, comprising over 20k messages
- Implemented transfer learning to fine-tune the pre-trained GPT2 model for improved performance on the specific NLP task
- Utilized NLP techniques to process and analyze the large corpus of love letters

**uwucode** | *Language Design, Rust*

**GitHub**

- Created a toy programming language in Rust, with a homemade parser, as an exploration into language design

**Mini Melbourne** | *Fullstack, Live data, React, Mapbox, FastAPI*

**GitHub - DevPost**

- Developed a real-time train map of Melbourne, showcasing the locations of up to 150 trains in Melbourne
- Won the PwC Data Analytics prize at UniHack 2022 for the project
- Utilized FastAPI for the backend and React for the frontend, along with Mapbox for mapping capabilities

**SETool** | *Data Visualisation, Python, Scraping, Dash, Plotly, Heroku*

**GitHub - Site**

- Designed and built a web dashboard for comparing course reviews, used by over 1000 students for their education

## TECHNICAL SKILLS

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**Languages:** Python, R, Julia, Rust, C/C++, MATLAB, Java, Wolfram

**Libraries:** Data science (Pandas, NumPy, SciPy, PyTorch, Seaborn, Streamlit), FastAPI, Dash/Plotly

**Mathematics:** Graph Theory, Computational methods, Optimisation and Operations Research, Linear Algebra, Calculus, Statistics