

# Sai Kumar Murali Krishnan

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## EXPERIENCE

### Canva

Melbourne, VIC

*Machine Learning Engineer*

February 2024 - Ongoing

- Machine Learning Engineer in the Photo Editor Group

*Machine Learning Engineer Intern*

November 2022 – February 2023

- Developed a debiasing framework for Stable Diffusion for Canva's Text to Image feature
- Researched and developed bias mitigation strategies targeting Stable Diffusion, addressing harmful and nonrepresentative biases in sensitive categories such as gender and ethnicity

### DiGiCOR

Melbourne, VIC

*Data Science Intern*

July 2022 – October 2022

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

### Monash University

Melbourne, VIC

*Winter Research Assistant - with Dr Julian Garcia (GitHub)*

June 2022 – July 2022

- Developed a genetic programming framework using simulation in Julia to address a game theoretic problem

*Summer Research Assistant - with Dr Xiaoning Du (GitHub)*

November 2021 - January 2022

- Parsed and analyzed commit data from over 30,000 deep-learning libraries using GitHub's REST API and Python to understand the evolution of deep-learning libraries for AutoML

## EDUCATION

### Monash University

February 2020 - December 2023

*Bachelor of Applied Data Science Advanced (Honours)*

Melbourne, VIC

- First Class Honours with a final grade of 90
- Dean's List Award for academic excellence (2021, 2022), Summer and Winter Research scholarships
- Thesis: Bias Modelling and Mitigation in Diffusion Models

## COMMUNITY & LEADERSHIP

### Monash Association of Coding (MAC)

March 2021 – September 2023

*President ← Events Director ← Events Officer*

- Overseen growth to over 1100 members, running a technical careers evening with over 100 attendees
- 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**

- Used transfer learning to fine-tune a GPT 2 on two university love letter pages, comprising over 20,000 pages
- Created a Streamlit application that infers a fine-tuned version of GPT2 to generate 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

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

**Libraries:** Pandas, NumPy, SciPy, PyTorch, Seaborn, Streamlit, TensorFlow, HuggingFace, FastAPI, Dash/Plotly

**Mathematics:** Graph Theory, Operations Research, Linear Algebra, Calculus, Statistics, Numerical Methods