

INTERESTS

I am interested in machine learning research with applications in the natural sciences, AI-assisted artistic creation and computer vision. I am looking for an applied research or ML engineer internship in these areas.

EDUCATION

MSc in Applied Computing

September 2022 – December 2023 (expected)

University of Toronto, Department of Computer Science

Courses (ongoing): [Computational Imaging](#), [Imitation Learning for Robotics](#), Natural Language Computing

BTech + MTech in Aerospace Engineering and Data Science

July 2017 – May 2022

Indian Institute of Technology Madras

GPA: 9.26 / 10.00

EXPERIENCE

IIT Madras, Department of Aerospace Engineering

July 2020 - July 2022

Student Researcher, Machine Learning for Fluid Mechanics and CFD

- Applied deep learning along with a differentiable fluid solver to correct sub-precision errors in fluid simulations, resulting in improved accuracy and computational efficiency. [\[Paper\]](#)
- Applied neural networks to predict the spectra of pressure fluctuations in turbulent boundary layers, resulting in more accurate models for super/hypersonic aircraft design.
- Published two first-author research papers and gave a [talk](#) at an ASME conference.

Anheuser-Busch InBev

Summer 2021

Data Scientist Intern, Marketing Analytics

- Interned in the marketing analytics team at the [world's largest beer company](#).
- Improved data-driven allocation of marketing resources across global markets and brands, resulting in an estimated 7% increase in marketing net revenue.
- Automated the team's data processing pipeline using Python (previously done manually in Excel).
- Received a job offer for showing excellent performance.

unMazer.ai

Summer 2020

Deep Learning and Product Development Intern

- Built a deep learning based tool to analyze, detect and flag various features in CCTV footage of road traffic.
- Contributed significantly towards building three company products in their early stage.
- Blog post: [\[Leveraging AI to Reduce Road Fatalities\]](#)

[google/jax-cfd](#)

Open Source Contributor

- Identified, traced and fixed a bug in a Google research library.
- Enabled differentiable fluid simulations to run using any floating point precision. Relevant to my research project.

Find course projects and hobby projects at <https://akasharidas.github.io/projects/>

PUBLICATIONS

Akash Haridas, Nagabhushana Rao Vadlamani, Yuki Minamoto, [Deep neural networks to correct sub-precision errors in CFD](#), Applications in Energy and Combustion Science, Volume 12, 2022

Akash Haridas, Nagabhushana Rao Vadlamani, [Modelling Wall-Pressure Spectra in Turbulent Boundary Layers Using Neural Networks](#), In Proceedings of the American Society of Mechanical Engineers Gas Turbine India Conference, 2021

SKILLS

Tools/Frameworks: PyTorch, JAX, NumPy, Pandas, Scikit Learn, OpenCV, Google Cloud Platform, PySpark, Excel

Programming: Python, C++, Julia, MATLAB, CUDA, HTML/CSS, LaTeX