Balaji Praneeth Boga

Email: bboga@andrew.cmu.edu
Mobile: +1(412)-330-0425

Education

- **Carnegie Mellon University GPA: 3.82/4.0** — **Pittsburgh, PA**
  Masters of Science in Mechanical Engineering - Applied Advanced Study — *Aug 22 - (Exp)Dec 23*
  Courses: Machine Learning and Artificial Intelligence for Engineers (**24787**), Big Data Science (**18788**), Computer Vision (**16720**), Art and Machine Learning (**10615**)
- **Vellore Institute of Technology GPA: 9.01/10** — **Vellore, India**
  Bachelor of Technology in Mechanical Engineering — *Jul 17 - Sep 21*

Skills Summary

- **Core Skills**: Computer Vision, Programming, Data Analysis, Data Preprocessing, Problem Solving
- **Languages/Tools**: Python (Scikit, OpenCV, TensorFlow, PyTorch, Numpy, Pandas, PySpark), MATLAB, C/C++

Projects

- **The Art of Decay - CMU (Jan 2023 - Present)**:
  (Deep Learning, Diffusion Models, Generative Models, Style Transfer)
  - Employed advanced deep learning techniques, including Pix2Pix, Diffusion, Neural Style Transfer, and Cycle GANs, to develop a novel computer vision project that generated animated horror images from input images, showcasing creativity and technical proficiency
  - Optimized and fine-tuned each deep learning model to generate high-quality, visually stunning, and horrifying images while maintaining fidelity to the input images

  Tech Stack: Python, Tensorflow, Keras, PIL, OpenCV, Pandas, NumPy, PyTorch, Git, Google Cloud
- **Disease Classification using Machine Learning - CMU (Aug 2022 - Dec 2022)**:
  (Supervised Learning, Hyperparameter Tuning, Data Preprocessing, Data Visualization)
  - Identified diseases using a data of 133 features such as cold, fever, itch, etc. from a total of 4920 patients
  - Compared different algorithms in terms of efficiency such as KNN, Random Forest Classifier, Support Vector Machine, Gradient Boosting and Decision Tree
  - Improved performance of each model by using feature engineering by about 4-5%

  Tech Stack: Python, Sci-kit, Tensorflow, Pandas, NumPy, Matplotlib, Seaborn, GridSearchCV, Git, Google Cloud
- **Prediction of Diabetes using Machine Learning (Jan 2022 - Apr 2022)**:
  (Supervised Learning, Hyperparameter Tuning, Data Preprocessing, Data Visualization)
  - Predicted presence of diabetes in a patient by training a dataset containing 10 features such as blood sugar level, blood pressure, insulin level, body mass index, age, etc. against a total number of 768 patients
  - Compared model with different models such as Random Forest, Support Vector Machine, and Decision Tree
  - Improved performance of the thus developed model to 95.4%

  Tech Stack: Python, Sci-kit, Tensorflow, Pandas, NumPy, Matplotlib, Seaborn, GridSearchCV, Git, Google Cloud

Publications

- **Balaji Praneeth Boga, Dr. Simon Peter Nadeem, Dr. Vimal KEK, Dr. Jayakrishna Kandasamy, "Performance measurement of e-commerce supply chains using BWM and Fuzzy TOPSIS, IJQRM-03-2022-0105"**:
  Tech: Python (Pandas, Numpy, Matplotlib, Seaborn), Excel, Tableau
- **Boga Balaji Praneeth, A mechanical arm coupled with an end effector for use in inventory and logistics management for food processing industries, Australia, App No: 2020103750, February 2021**:
  Tech: Solidworks, Fusion 360, ANSYS (Static Structural, Fluent, Maxwell)

Achievements

- Published an article in IJQRM in 2022, contributing to Multi-Criteria Decision-Making
- Published an Australian Design Innovation Patent, contributing to Pandemic Response Technologies
- Second Runner's Up at the IDEATHON 2018
- Third Runner's Up at the MECHNOVATE 2018

Volunteer Experience

- **Volunteer, MechE Diversity, Equity and Inclusion (DEI), CMU**:
  Collaborated with campus community to enhance diversity and inclusion, spearheaded evaluation of programs for underrepresented minority students, and implemented initiatives to ensure inclusive environment
- **Volunteer, World Wide Fund for Nature, Hyderabad, India**:
  Collaborated with a team of 10 to educate and inspire a diverse audience through interactive workshops and engaging content, resulting in a 30% increase in engagement and awareness of sustainable practices
- **Volunteer, Leo Club, Hyderabad, India**:
  Led and coordinated successful blood donation camps, implemented marketing strategies resulting in a 25% increase in donor turnout