SHREYAS KALVANKAR

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EXPERIENCE

Software Developer
Dalton Maag

November 2021 - Present | London, United Kingdom

- Worked on a novel technique of CJK font glyph generation using genetic algorithms

Machine Learning Engineer
Relfor Labs Pvt. Ltd.

August 2021 - November 2021 | Pune, India

- Worked on audio data classification and designed multiple novel deep convolutional neural network architectures and hybrids which beat state of the art models with **>99%** accuracy and ∼**0.99** F1-score
- Performed extensive research on the designed architectures to understand data distribution of the network embeddings to create **novel loss functions**, a **customized gated unit block** and model tweaks for effectively boosting performance
- Analysed the network output distribution by applying statistical methods for calculating threshold values to boost model performance to ∼**99.98%** accuracy and **100%** precision

Software Development Intern
FinIQ Consulting India Pvt. Ltd.

May 2020 - June 2020 | Nashik, India

- Set up an online platform for Forex trading using AngularJS as a new feature for the customers
- Created a python module for stress testing CPU and memory with variable load for integration in the company cloud platforms' testing pipeline

TECHNICAL SKILLS

- **Computer Languages** : C, C++, Python
- **Web Development** : AngularJS, Typescript, HTML, CSS
- **Deep Learning Frameworks** : Keras, Tensorflow, PyTorch
- **Machine Learning Frameworks** : Octave, Sci-kit Learn
- **Embedded Software Programming** : Arduino, Raspberry Pi, Teensy
- **Version Control** : Git, GitHub

POSITIONS OF RESPONSIBILITY

Software Developer
Team Vector, ABU Robocon 2019

August 2018 - April 2019

- Assigned to build and code a quadruped robot and a wheeled robot with dynamic locomotive abilities for ABU Robocon 2019

Mentor
Team Vector, ABU Robocon 2020

August 2019 - April 2020

EDUCATION

B.E (Computer Engineering)
K.K. Wagh Institute of Engineering Education and Research

2017-2021 | Nashik

- CGPA: 9.7/10

Higher Secondary Certificate
H.P.T Arts and R.Y.K Science College

2017 | Nashik

- 87.07%

PERSONAL PROJECTS & RESEARCH

THE GALAXY ZOO PROJECT

- Developed a CNN for vote fraction predictions of 37 galaxy features from the Galaxy Zoo decision tree with an rmse score of **0.07765**, ranking us in the **top 3** on the public leaderboard
- Developed a CNN for classification of galaxies into 7 classes based on their morphologies with an accuracy of **93.7%** and an F1 score of **0.8857**

THE EINSTEINPY PROJECT

- An open source community python package for general relativity
- **Contributions**:
  - Added Reissner–Nordström metric: a static solution to the Einstein-Maxwell field equations, into the code
  - Corrections in the Kerr-Newman and Kerr metrics classes
  - Added calculations of event horizon and ergosphere for a Kerr-Newman blackhole
  - DOI: 10.5281/zenodo.4445219

PUBLICATIONS

Journal Articles

- Kalvankar, Shreyas, Hrushikesh Pandit, Pranav Parwate, et al. (2021). *Astronomical Image Colorization and upscaling with Generative Adversarial Networks*. arXiv: 2112.13865 [eess.IV].
- Bapat, Shreyas et al. (2020). *EinsteinPy: A Community Python Package for General Relativity*. arXiv: 2005.11288 [gr-qc].
- Kalvankar, Shreyas, Hrushikesh Pandit, and Pranav Parwate (2020). *Galaxy Morphology Classification using EfficientNet Architectures*. arXiv: 2008.13611 [cs.CV].

- Helped and guided junior members of the team in building robots that could efficiently handle locomotion and throwing, catching and kicking a football