

SHREYAS KALVANKAR

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EDUCATION

Bachelor of Engineering(Computer Engineering) K.K. Wagh Institute of Engineering Education & Research, Nashik	2017 - 2021 Overall GPA: 9.54/10
Higher Secondary Certificate HPT Arts & RYK Science College, Nashik	2017 Percentage: 87.07%
Secondary School Certificate Boys' Town Public School, Nashik	2015 Percentage: 94.4%

TECHNICAL STRENGTHS

Computer Languages	C/C++, Python, Java
Web Development	AngularJS, Typescript
Deep Learning Frameworks	Keras, TensorFlow
Machine Learning Frameworks	Octave, Sci-kit
Embedded Systems	Arduino, RaspberryPi, Teensy
Version Control	Git, GitHub

EXPERIENCE

FinIQ Consulting India Pvt. Ltd. <i>Summer Intern</i>	May 2020 - June 2020
<ul style="list-style-type: none">Studied technical analysis of option chain, equity derivativesDeveloped a front-end platform using AngularJS for forex trading with history charts, exchange rates and along with a news portal and chatbot serviceStudied and analysed data cubes and OLAP for business intelligence using company platformsCreated a python module for stress testing CPU and memory as per user input using variable load calibrationDocumented relevant codes and procedureGitHub: CPU and Memory Stressing module & Forex Trading Platform	

RELEVANT COURSES

Core Courses Data Structures and Algorithms Computer Organization Operating Systems Theory of Computation Database Management Systems	MOOC Deep Learning Machine Learning Computer Vision Tensorflow and Keras
Other Relevant Courses Introduction to General Theory of Relativity Linear Algebra Mathematics for Machine Learning	

POSITIONS OF RESPONSIBILITY

Team Vector

August 2018 - April 2019

Developer

ABU Robocon 2019

- Assigned to build and code a quadruped robot and a wheeled robot with dynamic locomotive abilities
- The project was about an annual competition conducted by Asia Broadcast Union and consisted of a series of tasks that were supposed to be performed abiding the rules of the competition
- Two robots were created, one being an autonomous quadruped and the other a wheeled robot which had dynamic locomotive abilities

Team Vector

August 2019 - April 2020

Mentor

ABU Robocon 2020

- Mentored junior members of the team for designing two robots with holonomic drives
- The project was about a competition which would have the robots play rugby with 5 obstacles in the way
- Two robots were created out of which one was supposed to have throwing and kicking capabilities and the other was supposed to have catching and placing capabilities. Both robots had dynamic locomotive abilities owing to the holonomic drive design

PROJECTS & RESEARCH

The Galaxy Zoo Project

August 2019 - Present

- A galaxy morphology classification project using deep learning
- Studied different convolutional neural networks and their architectures
- Studied different architectural blocks to enhance performance
- Developed a network for vote fraction predictions of 37 galaxy features from the Galaxy Zoo decision tree
- Developed a network for classification of galaxies into 7 classes based on their morphologies

The EinsteinPy Project

March 2020 - April 2020

- Contributor to an open source community python package for general relativity
- **Contributions:**
- Addition of Reissner–Nordström metric: a static solution to the Einstein-Maxwell field equations, into the code (PR: #462 Issue: #309)
- Corrections in the Kerr-Newman and Kerr metrics classes
- Added calculations of event horizon and ergosphere for a Kerr-Newman blackhole (PR: #472 Issue: #109)

Time series analysis and prediction

March 2019

- Developed a recurrent neural network that analyses time series and predicts future time frame
- The project took into account a stock price, bitcoin exchange and other time series and could predict almost accurately the trend in prices
- Another project consisted of using pandemic data of active cases and visualising them as a time series and predicting the epi-curve for COVID-19
- An introductory project for LSTM networks which are extensively used in audio and sound analysis

Kuzushiji Recognition

September 2019

- A Kaggle competition to transcribe ancient Kuzushiji into contemporary Japanese characters
- Created a code to visualize the data and performed statistical analysis
- Built a model to recognize the handwritten text

Deep Writing

December 2019

- Created a RNN model with LSTM blocks to analyse books
- Trained the network over books from the same author and generated portions of new text

Natural Language Processing

December 2019 - May 2020

- Made various short projects relating to Natural Language Processing
- Created a RNN model and trained it over jokes dataset to generate jokes
- Created a RNN & LSTM network model and trained it over a poem dataset to generate poems
- Created and trained an ngram model and trained it over twitter data to generate tweets

Game Development using Unity

December 2018 - March 2019

- Created a first person shooter game in C# using Unity engine
- The project won the first prize at the Computer Graphics competition conducted at K. K. Wagh Institute of Engineering Education and Research under Computer Society of India

PUBLICATIONS

Shreyas Bapat et al. *EinsteinPy: A Community Python Package for General Relativity*. 2020.
arXiv: [2005.11288](https://arxiv.org/abs/2005.11288) [gr-qc].

LANGUAGES

English (*Native or bilingual proficiency*)

Hindi (*Native or bilingual proficiency*)

Marathi (*Native or bilingual proficiency*)

Sanskrit (*Limited working proficiency*)

Japanese (*Elementary proficiency*)

INTERESTS

Deep Learning

Computer Vision

Linear Algebra

Machine Learning

Data Structures & Algorithms

Data Science

Differential Geometry & General Relativity