Nikhil Barhate

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Education

2017 – 2021 **Sardar Patel Institute of Technology**,
University of Mumbai,
Bachelor of Technology (B.Tech) in Electronics Engineering CGPI – 8.42/10.

Experience

May 2019 - Jul 2019 **Machine Learning Intern**, SKINZY, Mumbai.

- Evaluated different methods to improve data efficiency for classifying skin disease images.
- Suggested and worked on implementing auto-encoders for transferring useful pre-trained features to the classifier for improved performance.
- The overall accuracy increased by 4%, while also reducing overfitting significantly.

Dec 2017 - Mar 2018 **Software Engineering Intern**, VPS TECHUB, Mumbai.

- Designed and implemented backend web services like CRUD, attendance and payment logger for a website using laravel MVC framework.
- Implemented the UI and backend of a desktop application using Java Swings

Projects / Paper Implementations

May 2019 - Jul 2019 **Learning Multi-Level Hierarchies with Hindsight** **[GitHub]**.

- Implemented Hierarchical Actor Critic algorithm described in the paper, 'Learning Multi-Level Hierarchies with Hindsight', in PyTorch to train hierarchical policies which learned to reach a goal state by dividing the task into short horizon intermediate sub-goals.

Jan 2019 - Mar 2019 **Deterministic Generative Adversarial Imitation Learning** **[GitHub]**.

- An attempt to apply Generative Adversarial Imitation Learning for off policy learning to improve sample efficiency.The algorithm worked for the Bipedal Walker environment with varying success.

Nov 2018 - Dec 2018 **Twin Delayed DDPG** **[GitHub]**.

- Implemented the algorithm described in the paper, 'Addressing Function Approximation Error in Actor-Critic Methods', to reproduce results on the Roboschool and Box2d gym environments.

Sep 2018 - Feb 2019 **Proximal Policy Optimization** **[GitHub]**.

- Implemented a simple and beginner friendly version of Proximal Policy Optimization algorithm for OpenAI gym environments in PyTorch.

Jun 2019 - Jul 2019 **Character level language modelling with RNNs** **[GitHub]**.

- Implemented a minimalist version of Char-RNN for character level language modelling using Multi-layer Recurrent Neural Networks (LSTM) in PyTorch.

Skills

Languages Python, C, MATLAB
Frameworks PyTorch, NumPy, Keras, Keil uVision C51, NODE-RED
Utilities Spyder, Ubuntu Linux, Git

Relevant Courses

Online	Deep Reinforcement Learning, Convolutional Neural Networks for Computer Vision
Classroom	Signals and Systems, Probability and Random Variables, Linear Algebra, Micro-Architectures, Computer Organization and Architecture, Embedded Systems, Programming Methodologies and Data Structures