Ashutosh Sathe

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Interests

System Designing, Pipelining, Bootstrapping, Deep Learning

Education

- **College of Engineering, Pune** Pune, India
  Bachelor of Technology in Computer Engineering; CGPA: 9.18/10 (First 7 semesters) *June 2016-May 2020(Expected)*

Internship Experience

- **Indian Institute of Science, Bangalore** Bangalore, India
  Summer Research Intern @ Video Analytics Lab *May 2019 - July 2019*
  - **Transferable Adversarial Robustness**: Worked on a robust preprocessor that allows removal of adversaries before passing them to the model.[Under submission]
  - **Robustness against "Spatial Transformation Attacks"**: Worked on a regularizer that improves robustness against "Spatial Transformation Attacks" without any adversarial training.[Under submission]
- **Indian Institute of Technology, Bombay** Powai, India
  Software Development Intern @ Content Team IITBombayX *May 2018 - July 2018*
  - **Advanced HTML XBlock for Open edX platform**:
    * Worked on an "XBlock" that allows the course editor to put full fledged HTML + CSS + JavaScript content into an Open edX course.
    * The XBlock features an enhanced editor that supports autocomplete, autoformatting, autoindentation and even live preview. The XBlock also considers security concerns about putting JS into course and takes proper steps to sandbox it properly.

Programming Skills

- **Languages**: Python, C++, C, JavaScript, LaTeX
- **Technologies**: Git, Gerrit, Node, Django, Docker, Makefile
- **Libraries**: PyTorch, TensorFlow, Keras, Matplotlib, GTK+3

Projects

- **POP1 → POP2**: A CycleGAN based approach for converting gameplay footage of PC game *"Prince of Persia 1"* to look like *"Prince of Persia 2"* . Used PyTorch for implementing CycleGAN.
- **Adversarial Reprogramming**: Simple PyTorch implementation of adversarial reprogramming. My experiments included training a ResNet18 on CIFAR-10 dataset, followed by reprogramming this network to classify MNIST as well. Reprogrammed network can get **93%** accuracy on MNIST.
- **Spreaddit**: An open source, lightweight spreadsheet editor completely written in C. It can be used in 2 modes (CLI and GUI) and supports following features:
  - Read/Write ODS/CSV files
  - Sorting the file on a specific column
  - Expression evaluation based on cell data(Supports only arithmetic expressions for now)
- **Photon Kernel**: An android kernel focussed on stability and features that supports latest android versions on Moto E and Xiaomi Mi A1. The kernel includes all the upstream patches from `linux-stable` and allows user to choose from a variety of CPU/GPU governors, I/O schedulers etc.

Certifications

- **Deep Learning Specialization** Coursera
  Credential - 6KJ5JB9HRMU2 *Jan 2019*