Siddhanth Pillay

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Education

Carnegie Mellon University, School of Computer Science, PA, USA — Aug 2019 - Dec 2020
Masters in Computational Data Science
- Computer Systems, Machine Learning*, Cloud Computing*, Interactive Data Science*, Data Science Seminar*

National Institute of Technology Karnataka, Surathkal — Aug 2015 - May 2019
B.Tech. in Information Technology (GPA: 9.07/10.0)
- Computer Vision, Soft Computing, Information Retrieval, Linear Algebra and Matrices, Database Systems, Design and Analysis of Algorithms

(* indicates currently undertaking)

Technical Skills

Languages - Python, C, C++, Java
Tools/Frameworks - Scikit Learn, Tensorflow, Keras, PyTorch, OpenCV, Git, LaTeX, STL, MySQL
Operating Systems - Unix/Linux, Windows

Work Experience

Research Intern - Indian Institute of Technology Bombay, Mumbai
Guide: Dr. Suyash Awate — May 2018 - Dec 2018
- **Segmentation:** Developed a Patch-based Sliding-Window Neural Network Model for Biomedical Image Segmentation
- **Adversarial Attacks:** Performed a comparative analysis of several Adversarial Attacks on LeNet as tools to evaluate the robustness of LeNet model
- **Visualisation:** Performed a omparative analysis of techniques to Visualize a Neural Network as tools to analyze Neural Networks

Software Development Intern - Yun Solutions, Pune
Project: ARAI Desktop Application — May 2017 - Jul 2017
- Worked on implementation of Processing and Analysis modules, which performed scientific computations, and GUI development

Selected Projects

- **Predicting Medical Procedures using Diagnostic Sequences with Neural Machine Translation:**
  - Built an LSTM model that predicts medical procedures to be performed by taking a sequence of diagnoses codes as input
  - Tuned the Sequence to Sequence model used in Neural Machine Translation to predict medical procedures
- **Dynamic Memory Network for Textual Question Answering:**
  - Built a Dynamic Memory Network which answers questions based on a sequence of facts
  - Incorporated modifications like a Two-Level Encoder in the Input Module and Global-level Attention Gates in the Memory Module
- **Malware Recognition Using Image Analysis:**
  - Built a CNN model that categorises a file as Malware or Non-Malware by processing the file image
  - Framework converts a file into it's corresponding image by reading it in binary form, then pass it through the CNN, pre-trained on a curated dataset, which predicts whether the file is a Malware one or not

Publications

- **A Neural Machine Translation based Approach for Predicting Medical Procedures using Diagnostic Sequences** - Siddhanth Pillay et al, Accepted for presentation at 34th ACM/SIGAPP Symposium On Applied Computing 2019, Cyprus

Awards

- **INSPIRE Scholarship**: For securing **top 1%** rank in 12th grade in state, 2015