

CHINMAYA LAD

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PROJECTS

SEMANTIC SEGMENTATION OF MEDICAL IMAGE DATASETS

Independent Study

- A research project to improve the performance of existing methods of training a model for medical image segmentation without **Human-in-the-Loop** training.
- Developed an architecture for segmentation of medical images using DeepLabV3 trained along side an adversarial **Multiscale L1 Loss** in PyTorch.

NEURAL STYLE TRANSFER

- Implemented a Neural Style Transfer model for performing artistic style transfer from an impressionist painting to normal image in **PyTorch**.
- Trained the model on **Perceptual Loss** calculated using **VGG-16** network trained for classification.
- Developed **Conditional Instance Normalization** for transferring multiple styles using single network.
- Used the same model for **real-time** artistic style transfer on a video input.

IMAGE GENERATION USING SELF-ATTENTION

- Developed a Generative Adversarial Network with a Self Attention mechanism for generating artificial images in **PyTorch**.
- Compared the results with DCGAN using **Frèchet Inception Distance** as evaluation metric.

AMAZON DYNAMO STYLE STORAGE

- Designed a distributed **key-value** storage system using Android emulators as distributed servers.
- Implemented **Partitioning, Replication and Failure handling** to provide **Linearizability** and **Availability** at same time.

KEY THRESHOLDING

- Implemented **Shamir's Secret Sharing Algorithm** for key thresholding using **Lagrange's Interpolation** and **Elgamal Encryption** as encryption base.

EXPERIENCE

SOFTWARE DEVELOPER

Mirraw Online Services

 Nov 2016 – June 2018

 Mumbai, India

- Examined server-side security vulnerability and feature development on **Ruby on Rails** framework.
- Ownership of Android Development, improved feature usability and implemented UX enhancement for the application
- Optimized GPU rendering performance leading to improved play-store ranking of the app.
- Restructured code base for better performance and minimized code redundancy.
- Introduced modular approach and proper coding standards in project for re-usability and understanding.
- Revamped and Developed Application UI.

DEVELOPMENT INTERN

e-Yantra, IIT Bombay

 May 2015 – July 2015

 Mumbai, India

- Developed “Fireblocks” (Embedded Programming Tutor).
- Implemented Web application using **PHP Laravel Framework** along with Google’s **Blockly Library**.
- Implemented server-side code generation and compiling mechanism.

EDUCATION

Master of Science (Computer Science)

University at Buffalo

 Aug 2018 – Feb 2020

 Buffalo, NY

Bachelor of Engineering (Computer Engineering)

University of Mumbai

 Aug 2012 – July 2016

 Mumbai, India

COURSES

Machine Learning

Deep Learning

Computer Vision

Distributed Systems

Computer Security

TECHNICAL SKILLS

- Java, Python, Ruby, and C.
- Pandas, Numpy, Scikit-learn.
- PyTorch, Keras, Tensorflow.
- Crypto, OpenCV, Pillow.
- Ruby on Rails, Laravel, Django.
- SQL, MySQL, PostgreSQL.

SOFTWARE SKILLS

- Eclipse
- Android Studio
- Linux OS (Fedora/Ubuntu/CentOS)

ACHIEVEMENTS

1st place in e-YRC 2015

 1st place in e-Yantra Robotics Competition for theme Warehouse Management organized by e-Yantra, IIT Bombay.