

Tejas Shivanand Mane

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EDUCATION

- **University of Pennsylvania** Philadelphia, U.S.A
MS in Scientific Computing, GPA: 3.48/4.0 Aug. 2018 – May 2020
- **Birla Institute of Technology and Science (BITS)** Pilani, India
Bachelor of Engineering in Mechanical Engineering; GPA: 8.49/10.0 Aug. 2013 – July. 2017

COURSES

Graduate Courses: Machine Learning, Biomedical Image Analysis, Big Data Analytics, Operating Systems, Databases and Information systems, Algorithms and Computation, Internet and Web Systems.

TECHNICAL SKILLS

- **Languages:** Python, C/C++, Java, HTML/Javascript
- **Tools and Technology:** Linux, Spark, Git, AngularJS, NodeJS, MySQL, MongoDB, Neo4j, Matlab

EXPERIENCE

- **Computer Vision/ML Intern, Characterfacegen by Vidalign Inc** (May 2019 - August 2019):
 - Optimized the main 3DMM algorithm, using parallelism (**OpenMP**) to increase the processing speed from 1 fps to 6 fps, Used optical flow to stabilize generated 3D morphable model's output using **OpenCV** libraries,
 - Wrote code to extract spherical harmonic lighting information and pure color texture from baked texture containing shadow/illumination. **Skills: C++, OpenMP, Python, Tensorflow, OpenCV.**
- **Research Assistant, University of Pennsylvania** (Jan 2019 - Present):
 - Currently working under Dr. Elena Bernardis, developing machine learning algorithms to visualize and apply 2D image hair segmentation masks onto 3D meshes with a tailored geometrical structure, using a video as input. **Skills: Python, Keras, Tensorflow, OpenCV.**

SELECTED PROJECTS

- **Search Engine** October 2019 - December 2019
 - Worked in a team of 2, developing a cloud based distributed search engine in **java**, comprising of a Crawler (Over 1 Million documents crawled), PageRank and UI, using technologies such as **AWS EC2, Map Reduce, Spark** and **Berkeley DB**.
- **Web Application for SAT Score Prediction/Analysis** February 2019 - April 2019
 - Built a full stack project in a team of 4, using **AngularJS, NodeJS** and **Bootstrap**. An **AWS RDS** database was populated by scrapping SAT scores related data from the web. **MySQL, NoSql (MongoDB)** was used with query optimization and caching.
- **Penn OS** March 2019 - April 2019
 - Worked in a team of 4, on building an operating system simulator on **Linux** with components such as preemptive priority scheduler and a file system, in **C**, primarily dealing with the file system component for the operating system.
- **Sentiment Analysis using Deep Learning** October 2018 - December 2018
 - Developed machine learning models to detect insincere questions using the Quora dataset available on Kaggle.
 - Applied models such as Random Forest, CNN and LSTM using **Keras** and **Sklearn** to achieve an f1 score of over 0.65 on the test data set.
- **Semantic Image Segmentation using Deep Learning** September 2018 - December 2018
 - Trained deep learning models such as **cGANs** and **U-Net** to achieve ~ 90% segmentation accuracy on the test data set based on Alopecia areata (Hair Loss).