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ROHAN VARDHAN

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EXPERIENCE

Graduate Research Assistant **CREOL, University of Central Florida, FL** **May 2017 – Present**

- Developed and deployed GUI based software for splicing machine used in research of nonlinear and quantum optics, fiber optics
- Designed and added functionality to the LZM-100 splicing machine over the existing software by integrating the DLL in Python
- Reduced manual workload by 60-90 minutes daily
- Automated the process of splicing multi-mode fibers

Visiting Research Assistant **Nokia Bell Labs, NJ** **June 2017 – July 2017**

- Assisted Dr. Nicolas Fontaine in calibration of LCoS-SLM using Python
- Developed convolutional auto-encoder in Python and Keras (TensorFlow) to restore the quality of image transfer realized using LCoS-SLM; optimized for 1.1% loss in quality of images
- Delivered talk on 'Overview of Machine Learning' at Holmdel location

Graduate Research Assistant **CRCV, University of Central Florida, FL** **Sept. 2016 – Nov. 2016**

- Assisted in training a dataset of 15000 images in Python and MATLAB to create a system of automatic image annotation

EDUCATION

Orlando, FL **University of Central Florida** **Fall 2016 – May 2018**

- Master of Science in Computer Engineering, May 2018 (Expected) – 4.0/4.0 GPA
- Relevant Coursework: Data Mining Methodology, Independent Study, Computer Vision, Random Processes
- MOOC: Machine Learning (Coursera), Machine Learning A-Z (Udemy), Data Science A-Z (Udemy)

PROJECTS

- **Orlando Crime Classification** (2017). Created interactive dashboard in Jupyter using Tableau for visualizing crimes based on location, charges, disposition, categories; Predicted category of crimes using K-nearest neighbors
- **House Price Prediction** (2016). Conducted EDA on the dataset and employed ensemble Lasso regularization and XGBoost to predict house prices using Python; Achieved RMSE of 0.015; Secured rank 142 out of 2249 (top 7%) on the Kaggle leaderboard
- **Bike Sharing Demand** (2017). Predicted the demand on bikes with RMSLE of 0.1 by performing EDA and employing regression model; Used Ridge regularization and performed grid search hyper-parameter tuning
- **Forward Collision Warning (FCW) using Machine Learning** (2017). Designed a system using decision trees to generate alerts for cars within warning range; Achieved F1-score of 0.95 on the dataset of 800 different scenarios (~370K examples)
- **Smart Toll Pricing** (2017). Created a model to forecast variable toll prices to balance traffic load by using MicroStrategy and Python; Used Orlando traffic data

SKILLS

Programming Languages: Python, MATLAB, R, C++, SQL, Scala | **Data Visualization**: Tableau, MicroStrategy | **Machine Learning Software**: Gretl, SAS| **Machine Learning Libraries**: TensorFlow, Keras, Scikit learn, NumPy, Pandas, Matplotlib | **Big Data**: Spark