

SUMANTO PAL

Brooklyn, New York, United States

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EDUCATION:

New York University, New York, NY

May 2018

Masters of Science in Electrical Engineering

Michigan State University, East Lansing, MI

December 2015

Bachelor of Science in Electrical Engineering

Study Abroad: ECAM, Lyon, France

Summer 2013

WORK EXPERIENCE:

Machine Learning Engineer Contractor (Remote)

Niteowl Prints, LLC

December 2018 - Present

- Added new algorithms to the data science research framework, enhancing the research framework's modeling API, and understanding other data science needs to reduce modeling pain points.
- Trained preexisting neural network models on new data using AWS SageMaker, EC2 and Keras.
- Detected and treated outliers ran stepwise regression and all subset regression methods to choose effective variables to build classification models.
- Used a Continuous Bag of Words(CBOW) model to predict text sentiment in documents using Word2Vec and NLTK
- Worked with various AWS services such as the DeepLens, Lambda, GreenGrass, SageMaker etc. Quantified and visualized scaling and reliability characteristics of beta release with IPython Notebook and Pandas.
- Developed image processing and OCR based data transformation and integration pipelines for information verification and document categorization using deep neural networks.
- Collaborated with the Operations and Technology Department on the development of new automated data management/analysis software which increased the overall productivity and cut unnecessary costs.

Computer Vision Engineer Contractor

OTG Management New York, NY

August 2018 - Nov 2018

- Trained and tested various object detection models
- Worked on formulating algorithms for getting dwell time in restaurants using object tracking
- Used cloud services such as AWS to send IoT messages and data to local servers
- Worked with and tested various neural network models for identifying facial features to extract data
- Worked with various AWS services such as the DeepLens, Lambda, GreenGrass, SageMaker etc.
- Built own dataset to training neural network models for classification tasks
- Created algorithm for person tracking using unique ID's

Machine Learning Engineer Contractor (Remote)

Mark Cuban Companies

Nov 2017 - June 2018

- Built software to automatically annotate "events" that occur in video footage of NBA gameplay
- Worked on algorithms to predict player speed from a given basketball video
- Used Neural Network Algorithms to extract information from raw video footage
- Worked on player tracking and player detection using "Deep-SORT"

ACADEMIC PUBLICATIONS:

Presenter, "**Split Consideration For Painting Using Artificial Neural Networks**", ACM

Multimedia 25th Computer Vision Conference. Mountain View, CA.

October 23-27, 2017

ACADEMIC PROJECTS:

Split Consideration For Painting Using Artificial Neural Networks

New York University

Spring 2017

- Used Pre-trained Deep Neural Network to convert a picture into an artistic painting using **Tensorflow**
- Wrote source code on **python** to implement various **image processing techniques** including **Interpolation, Gaussian Filtering, Bilateral Filtering**

Audio Source Separation for Mono-aural audio Using Robust PCA

New York University

Spring 2018

- Separated the source from an audio signal to **extract** only the **singing voice**

- Used various **different audio processing techniques** such as **RPCA** and **Inexact ALM** to extract singing voice
- Performed **frequency masking** to improve results

Maze Solving Autonomous Robot,

New York University

Spring 2017

- Programmed the **STM32-F3 microcontroller** to implement a **Right wall following** algorithm to solve a maze
- Used **internal timers and clocks** of the **STM32-F3** microcontroller instead of **encoders**
- Worked on the **USART** to communicate between the microcontroller and robot interface board

TECHNICAL SKILLS:

Languages	Expert in Python (Pandas, Numpy, Tensorflow,Keras, Scikit-Learn), MATLAB.
AWS	EC2, SageMaker, S3, GreenGrass, Lambda
Analysis	Feature Selection, Supervised Learning, Model building, Penalized Linear regression, Time Series
ML Frameworks	Keras, TensorFlow, Pytorch, Caffe, OpenCV