rastogineelesh1@gmail.com
+1 (732) 325-5794

NEELESH RASTOGI

neelrast.github.io
linkedin.com/in/neeleshrastogi

Multi-disciplinary AI Researcher and Design Enthusiast passionate about crafting human-centric AI designs, translating data into insights, creating visually and functionally impactful products, and designing data-driven experiences.

EDUCATION

Queens, NY **St. John's University** **May 2019**

- **Major:** Bachelor of Science in Computer Science ***(Graduated - Magna Cum Laude, GPA 3.63)***
- **Certificate (Minor):** Mathematics
- **Programming Coursework:** DBMS, Design Processes, Algorithms, Data Structures, Operating Systems, Cryptography, NLP
- **Math & Electives:** Linear Algebra, Probability & Statistics, Calculus, Series, Differentials, Data Mining & Predictive Analytics

LEADERSHIP/HONORS

Awards: Richard O' Lander Memorial Award, Dean's List (2015-19), Computer Science Honor Society

Leadership: Founder – St. John's AI Lab (*www.sjuai.com*); Organizer – TEDx StJohnsU (*ted.com/tedx/events/24080*)

WORK EXPERIENCE

AI & NLP Engineer **First Blush AI (startup)** **July 2018 – Present**

Emotion Recognition Toolkit (*www.firstblush.io*): TensorFlow Model For Emotion-Facial Recognition

- Developed an emotion recognition pipeline to analyze emotions using Microsoft FER+ and MobileNets with 71.14% accuracy
- Assisted the mobile engineering team to optimize and deploy models over coreML using TensorFlow Lite Converter
- Took the lead on app's chatbot experience and analyzed large interaction datasets to curate user-specific intents
- Worked with cognitive researchers and copywriters to develop persona based conversational flows & knowledge representations
- Collaborated with other UX engineers & designers to communicate results & ideas at various conventional UX/ML meetups
- Leveraged Knowledge in React-Native, Yarn, XHTML, SASS, JavaScript, TensorFlow, MobileNets, FaceNet, NLTK, Spark NLP, & Git

Chatbot Architect **St. John's University, IT Department** **Summer 2018**

Thunderbot (*neelrast.github.io/thunderbot*): Conversational Chatbot For Enhancing Student Experience

- Utilized selenium to extract, organize and classify organizational data for conversational encoding and topic modelling
- Created conversation models using NLTK, SpaCy and Keras for automating low-level troubleshooting processes
- Analyzed help-desk queries for user's spoken intents using Seq2Seq models and routed requests to specific departments
- Leveraged Knowledge in Selenium, MySQL, XHTML/CSS, Seq-2-Seq Models, Programmed in Python using TensorFlow & SpaCy

Data Analyst, Intern **Blue Water's e-Marine Solutions** **Summer 2016**

Optimum Routing (*www.bwesglobal.com/optimumrout*): Unique Algorithm To Replace Traditional Weather Routing Advisory

- Created a forecasting algorithm to predict pitch, roll & yaw to optimize fuel savings by 8-10% against transparent benchmark
- Trained an SVR-RBF Kernel, using engine and boiler data from 32 ships for predicting minimal fuel and energy consumption on suggested optimal routes with an R^2 - score of 82.89%
- Leveraged Knowledge in NumPy, SciPy, Scikit-Learn, Dask, Django & Git

PROJECTS & PUBLICATIONS

Personal Website: *https://neelrast.github.io* *(for additional information and projects)*

Udacity's Carla - Self Driving Car Engineering Program

- Designed a planner module to create smooth, safe paths for the car to navigate through traffic on a three-lane highway
- Build a particle filter and combined it with real-world mapping services to localize vehicle on road
- Implemented a PID controller and Extended Kalman Filter in C++ to control and fuse together radar/lidar data to track the vehicle
- Utilized: C++, Python, OpenCV, ROS Nodes, TensorFlow, LeNet, Discrete Path Planning, Markov Localization, Catkin Workspaces

Real-Time Mapping of Potential Disease Outbreaks via Tweets *(Published – FLAIRS, AAAI 2019)*

- Used Twitter API to create a multi-threated extraction process to stream and organize 1.5M health related tweets from NYC Area
- Used SQL, Dask, NLTK and Gensim for preprocessing the collected Twitter corpora and run feature extraction processes
- Developed a dynamic dashboard to further cluster and visualize, Knowledge Maps, Topic Models and analyzed tweets using D3.js
- Utilized: Python, Dask, TensorFlow, Scikit-Learn, Spacy, Genism, NLTK, Twitter API, Flask

HRI Framework for providing Cognitive Behavior Therapy *(Published ICMI, ACM 2018)*

- Led a team of developers and cognitive researcher assistants to produce dialog flows for generating robot-patient communication
- Conducted multimodal analysis for identifying modal features and utilized ML techniques to train a social robot to identify and tag studied early signs of depression
- Utilized: Linux, Python, TensorFlow, Keras, C++, ROS Nodes, NAOqi, Knowledge Representation Graphs, Neural Nets

SKILLS

Software: ***(proficient)*** Python, Java, C++, React.js, SQL, Git ***(familiar)*** Ruby, Swift, React-Native, GraphQL, XHTML/CSS, JavaScript, Go
Prototyping & Design: Balsamiq, Sketch, Adobe Photoshop, Illustrator and XD