

Pratik Mangalore

<https://github.com/Devoidofevil>

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EDUCATION

- **University Of California, Los Angeles** Los Angeles, CA
Master of Science in Computer Science; March 2020 (Expected)
- **Indian Institute Of Information Technology, Allahabad** Allahabad, India
Bachelor of Technology in Information Technology; GPA: (9.31/10.0) July. 2014 – July. 2018

EXPERIENCE

- **Cisco** Bangalore, India
Software Engineering Intern - Mobility Core Business Unit Jan. 2018 - June. 2018
 - **Application Detection & Control:**
 - Instrumental in developing a heuristic machine learning algorithm to classify network traffic based on TCP payload data
 - Integrated the above model with the Core ADC module
 - Collected and analyzed payload data to detect anomalies
 - Optimized memory usage for branches related to Machine Learning within the ADC module
 - **StarOS:**
 - Developed an independent module which can auto-document the logic for an application's protocol detection code using regular expressions and the NLTK library

RESEARCH & PROJECTS

- **Using Complex Network Measures to compute functional and causal connectivity in the brain:**
 - Mapped brain activity caused in response to verbal and mathematical tasks to a connectome
 - Applied Complex Network measures to differentiate the activity caused in response to verbal and mathematical tasks
- **Dynamic Screen Clipper:**
 - Developed this application for the Windows platform, that can crop selected regions from an application and sticky it onto the screen
 - The stickied window retains full functionality of the application.
 - Developed the application further as a Self-Project so as to allow the user to resize or move the clipped window
 - National Award Winner in Hack In The North '17 (India's largest student organized Hackathon)
- **Augmenting Statistical Machine Translation:**
 - Used the NLTK library in Python and developed a Modified Apriori Algorithm to obtain semantic rules based on POS (Parts-Of-Speech) Tagging. The POS tagging aids in performing machine translation when sarcasm is detected.
- **Developed a language invariant OCR:**
 - Classified by converting input into a set of strokes which were learned using unsupervised machine learning
- **Developed an Emotion & Expression Detection engine using Gabor Filters:**
 - Used Gabor Filter's to extract facial feature's such as eyebrow orientation, nasal ridge direction, eye aperture size and lip line size, and then used K-Nearest Neighbor to perform classification
- **Search Engine:**
 - Created a basic search engine which included optimizations such as word prediction and a simple page rank algorithm

PROGRAMMING SKILLS

- **Languages:** Python, C++, C, Java, C# **Tools:** MATLAB, Microsoft Visual Studio, NetBeans, Git
- **Data Science and ML Libraries:** NumPy, Scikit-Learn, Tensorflow, Keras
- **Relevant Coursework:** Data Structures & Algorithms, Artificial Intelligence, Natural Language Processing, Operating Systems, Machine Learning, Simulation & Modeling, Compiler Design, Computer Architecture, Computer Vision

HONORS, AWARDS & MEMBERSHIP

- **Received the IEEE Computer Society Richard E. Merwin Scholarship '17:**
 - For maintaining an excellent academic profile and providing dedicated volunteering services to the IEEE Computer Society
- **Speaker - Technical Awareness Program, IEM Kolkata '17:**
 - Spoke on current research topics in Data Science and Machine Learning
 - Spread awareness about why research is important to the industry