Manish Patel

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Education

- **Texas A&M University** — College Station, TX
  Masters in Computer Science; GPA: 4.0 — *August 2020*
- **Motilal Nehru National Institute of Technology** — Allahabad, India
  Bachelor of Technology in Computer Science and Engineering; GPA: 3.56 (8.31/10.0) — *July 2009 – May 2013*

Experience

- **Google LLC** — Mountain View, CA
  Software Engineer Intern — *September 2019 - December 2019*
  - **Data augmentation for IA model**: Designed and implemented data augmentation techniques to increase performance of Intent Argument model of voice assistant by 14% for low traffic intents.
- **Centre for Development of Telematics** — New Delhi, India
  Research Engineer — *August 2013 - August 2018*
  - **Emergency Call Session Control Function**: Researched, designed and implemented E-CSCF server of IP Multimedia Subsystem to handle the emergency calls in the network.
  - **Proxy Call Session Control Function**: Optimized the code by modifying data structures and removing redundancies to increase the performance of the server by about 6% (120 calls per second).
  - **Attendant Console System**: Designed and implemented SIP-enabled VoIP application using Java and JAINSIP stack which allowed users to handle multiple lines concurrently.
  - **Session Border Controller**: Implemented a lightweight Command Line Interface using readline library for remote configuration and management of SBC; Created fault-tolerant and highly available systems for MAX-NG systems.
  - **Release generation**: Streamlined the release generation by creating automated tests and providing single interface for updating TARs and patch generation.

Languages and Technologies

- C++, Python, Java, C, Bash, HTML, Javascript
- Linux, AWS, GCP, Keras, Tensorflow, Android Studio, Spark, Ruby-on-Rails

Technical Experience

- **Emotions On Cloud**: Designed and deployed an active-learning based ML framework on Google Cloud; learns from the feedback given by user in real-time; May 2020
- **Neurite reconstruction of 3D images**: Designed and implemented techniques of 3d segmentation for neurite reconstruction from boundary maps- CREMI Challenge; July 2019
- **TinySearch**: Developed a semantics based search engine using BERT embeddings in Neural Networks project; achieved a Precison@14 score of 0.533; May 2019
- **As You Like It**: Designed and implemented a personalized book recommender system using summary embeddings and improved efficiency by 0.42%(RMSE) of User-Item Collaborative Filtering and by 1.12%(AUROC) of BPR ; May 2019
- **Real-time Face detection and Emotion classification**: Studied, implemented, and compared the LBPH, PCA and Fisherface algorithms for face recognition and integrated it with emotion classifier to create real-time app; Nov 2018
- **Determination of PSAP and Routing of Emergency Calls in IMS**: Co-authored a research paper on alternative mechanism for routing emergency calls in IP Multimedia Subsystem; IEEE-ANTS 2017

Additional Experience and Awards

- **Bumblebee: A Smartkey to your Car**: Awarded 2nd prize in TAMUHack for developing android app for smartcar;Jan 2019
- **Deployment of Broadband through NGN**: Trained in broadband deployment technologies by ITU, Asia Pacific; Nov 2017
- **Competent Communicator**: Awarded by Toastmasters International for competent public speaking; August 2018
- **Best Performer**: Awarded Best Employee of the Year award in the Call Processing Group in C-DOT; July 2016