Manish Patel

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Education

- **Texas A&M University** — College Station, TX
  Master of Engineering in Computer Engineering; GPA: First Semester student — *May 2020*
  - **Graduate Coursework**: Machine Learning, Operating Systems, and Software Engineering
- **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

- **Centre for Development of Telematics** — New Delhi, India
  Research Engineer — *August 2013 - August 2018*
  - **Emergency Call Session Control Function**: Researched and implemented E-CSCF node of IP Multimedia Subsystem to handle the emergency calls in the network; Implementation published in IEEE-ANTS 2017
  - **Proxy Call Session Control Function**: Optimized the code by modifying data structures and removing redundancies to increase the performance of the system 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
  - **Survivable Call Server**: Extended the code of fallback server SCS to provide Call Forwarding, Hunt Group, and Centrex call features
  - **Release generation**: Streamlined the release generation by creating automated tests and providing single interface for updating TARs and patch generation

Projects and Research Experience

- **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
- **Othello-A two player AI board game**: Designed UI based judge for the board game using Java and implemented minimax algorithm to program the C++ bots that interacted with the judge
- **Workflow Management Software for Research and Consultancy Cell**: Collaborated with four team members to design and develop the relational DB for the entire work flow; Implemented GUI of several modules using PHP, HTML and Javascript
- **Solutions to The C Programming Language**: Solved and uploaded the solutions of the exercises in 'The C Programming Language' book by Kernighan and Ritchie on Github
- **Conversion of abstract C++ code to CCS model using parser tools**: Designed and implemented algorithm to convert C++ code to Java using CCS as intermediate thereby allowing software conversion
- **Multiobjective Optimization using Genetic Algorithms**: Studied and implemented the Genetic Algorithm in C++; Researched and devised an efficient algorithm for solving multiobjective optimization problems

Languages and Tools

- C++, C, Java, MySQL, Python, Ruby, PHP, Bash, HTML, Javascript
- Wireshark, gdb, valgrind, SIPp, Netbeans, Tsung, Asterisk, lex, git, Matlab, Eclipse, AWS

Additional Experience and Awards

- **Machine Learning**: Secured 96% marks in this course of Stanford university, certified by Coursera
- **Deployment of Broadband through NGN**: Trained in broadband deployment technologies by ITU, Asia Pacific
- **Competent Communicator**: Awarded by Toastmasters International for competent public speaking
- **Best Perfomer**: Awarded Best Employee of the Year award in the Call Processing Group in C-DOT

Work Authorization

- Eligible to intern in the U.S. with Curricular Practical Training(CPT)