

Tushar Dhadiwal

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EDUCATION

- University of California, Irvine**, California, USA **GPA: (3.9 / 4.0)** Dec 2017
Master of Science in **Computer Science**
Relevant Coursework: Principles Of Data Management, Machine Learning, High Performance Architectures, Information Retrieval
- Pune Institute of Computer Technology**, Pune, India **GPA: (3.92 / 4.0)** May 2016
Bachelor of Engineering, **Information and Technology**

SKILLS C, C++, C#, JAVA, Python, SQL, Mongo DB, Android & iOS Development, Objective C, Cassandra, HTML, CSS.

WORK EXPERIENCE

- Rajdeep Info Techno Pvt. Ltd.**, Pune, India Jun 2015 – May 2016
- Worked as a **Software Development Engineering Intern** to improve precision of JAVA & VB.NET based toll automation system.
 - Improved an algorithm which detects & classifies passing vehicle and boosted system accuracy from **78% to 97%**.
 - Achieved **35% cost reduction** for hardware, as new algorithm was efficient to run on cheaper & slow development board.
- MENSA Incubation Center**, Pune, India Jun 2014 – Aug 2015
- Advised and mentored students as **Program Manager** in improving & monetizing their apps for building successful startups.
- Freelance Web Developer**, India May 2012 – May 2015
- Developed Websites and Web Applications, performed SEO for them and co-founded an E-Commerce Startup for events.
 - Skilled in using HTML, PHP, ASP.NET, Java Script, CSS, Ajax for web and Mongo & SQL Server for database back-end.

RESEARCH EXPERIENCE

- University of Pune**, India Jun 2015 – May 2016
Undergraduate Research Student
Project: Security Applications of Eye Glasses Free Display. Supervisor: **Professor Dr. M. Emmanuel**
- Materialized concept proposed by Dr. Gordon Wetzstein from MIT Media Labs and generated a low cost prototype that allows viewers with eyeglasses to clearly see the display with naked eyes without spectacles. Coded in MATLAB.
 - Created **“DOLE”** (patent pending) : an on-the-go image encoding algorithm, in which decryption task is completely eliminated as it is done by human brain since encryption is done using eye profile of the viewer as the key.
- Indian Space Research Organisation (ISRO)**, India May 2007
- Selected amongst 10 student from all over India based on mathematics test to visit ISRO as the youngest participant.
 - Worked on a project for extracting GIS features & 3D map of an unknown territory based on images and sensor data.

PROJECTS

- Relational Database Management System** Sep 2016 – Dec 2016
- Implemented from scratch a paged file manager, record-based file manager, B+ tree based index manager and an optimized query engine (filter, project and aggregate operations) using C++ which works just like SQL.
- Enhancing compilation speed by Manual Vectorization of Loops** Sep 2016 – Dec 2016
- Vectorized loops in a code for improving performance of an icc & gcc compiler by doing dependency analysis, wrote bash scripts.
- I-Attend - Innovative Management Information System (Open Source)** Jan 2016 – May 2016
- Developed an innovative attendance recorder & manager for teachers & students in college.
 - Solved problem of attendance unawareness for students by automated notifications via email and FTP based homework solution.
 - Learnt various efficient approaches in JAVA development for front end & Mongo DB as back-end.
- Home Automation System (Low Cost & User Adaptive)** Jun 2015 – May 2016
- Utilized Raspberry Pi to host a C# and Python based module for home automation with SSH & VPN facility for remote control.
 - Designed a self adaptive algorithm performing tasks according to user's lifestyle with context recognition API.
- Audio Relay From Wi-Fi to FM (Open Source)** Feb 2015 – Mar 2015
- Implemented a module for linux which allows retransmitting audio received over Wi-Fi through UPNP or Airplay to a desired FM frequency. Configured Raspberry Pi Development Board to transmit FM signal via GPIO pins.
 - Solved problem of latency lag when streaming to multiple systems.
- Media Center (Like Netflix but Free)** Jan 2015 – Aug 2016
- Compiled a ready to flash image of Ubuntu UNIX Operating System for Odroid XU4 development board.
 - Developed an UI (UX) supporting Nginx, Torrent server, Plex Media server, NZBget, Sonarr, Couchpotato, Kodi, Pushbullet, UPNP streaming and Airplay.
- Titu - Personal Voice Assistant (Open Source)** Jan 2014 – May 2015
- Using JavaScript and Autovoice NLP with Tasker, developed an android based assistant which serves for controlling IOT devices and all phone operations based on context. Location, Wi-Fi, Cell Towers are all used to do context based switching.

ACHIEVEMENTS

- Genius Child Of The Year, 2009 by Sakal Media Group, India
- Received **recognition award** by **Ex-President of India - Dr.APJ Abdul Kalam** Himself, 2005
- **Indian Institute Of Technology, Bombay** Mood-I Coding Competition Winner, 2015
- Qualified for **ACM ICPC** Held at Kharapur, India 2015