

SWAPNIL TANEJA

(858)-405-6157 | swtaneja@eng.ucsd.edu | [GitHub](#) | [LinkedIn](#)

Education

- UC San Diego** – MS in Computer Science, (Sep '16 – Jun '18)
- Courses - Algorithms, Database Systems (Relational and XML), ML, Neural Networks, Advanced Analytics
 - Tata Scholar – Awarded Scholarship for higher education among 50000 applicants in 2016.
- Indian Institute of Technology, Roorkee** - B. Tech, Electrical Engineering, (**CGPA – 8.8/10**) (Jul '10 – May '14)
- Courses – Data Structures and Algorithms, Discrete Structures, Image Processing, Cryptography
 - Secured JEE (Joint Entrance Examination) Rank – 1601 among 460,000 candidates in 2010

Work Experience

- Oracle, Software Developer** (Jun '14 – Aug '16)
- Enhanced the automation framework, FA Provisioning, by merging similar procedures & removing redundancies – **ANT, Java**
Impact: Improved running time of provisioning framework by 20%.
 - Built a tool called **Log Miner** to predict the cause of logged errors using Machine Learning algorithms. Got featured in Oracle Social Network for leveraging IEEE research – **Java, KNN** and **decision trees**.
Impact: Achieved an **accuracy of 90%**, significantly reducing the time for parsing logs and debugging.
 - Wrote Life Cycle Management Read APIs using Introspection and Topology manager APIs - **Java**
Impact: Used by Patching, Upgrade and E2E automation teams.
- Hewlett Packard Education Services, Brand Ambassador, Intern** (Jun '13 - Jul '13 & May '12 - Jun '12)
- Developed a website prototype for airline reservation. The task was to implement and test a scheduler for flights from different aerodromes preventing clashes - **ASP.Net, C#, SQL Server**
 - Built a computer controlled robot with an ability to never fall off the table - **Atmega 16 AVR, IR Sensors**.
Impact: Solved the problem of limiting the bot within the boundaries and prevention from collisions and falling.

Technical Skills

Languages/Framework - Java, C++, Python, MySQL, Android, Tensorflow(tf), XML, HTML, CSS, Junit, C#
Platform/Software/Tools – Linux, Matlab, Antlr4, SQL Server, Android Studio, ANT, Gradle, OpenCV, Git

Projects and Research

- Portability Analysis, Text to image Synthesis using GAN** (March '17)
- Used a GAN model to generate flower images from Flower Dataset & number images from MNIST & hand-crafted Dataset – **Python, tf**. Tested our hypothesis that GAN is generalizable and portable to other datasets. [\[Report\]](#)
- Improving Recall using features of CNN** (March '17)
- Improved Recall of image similarity search using internal representations of CNNs-**Python, Matlab**. [\[Survey\]](#)
Impact: Improved the average recall from 0.56 to 0.79 using CNN features.
- XQuery Processor** (March '17)
- Created and optimized XQuery Processor for executing Xpath 2.0 expressions. – **Antlr 4, Java, XML** [\[Link\]](#)
- Generating Music using RNNs, Transfer Learning using VGG16 – CNN** (Feb '17)
- Generated melodious music on an RNN model trained on text in ABC notation-**Python** [\[Report\]](#)
 - Trained just the last softmax layer on Caltech 256 and utilized the existing VGG16 model parameters. [\[Report\]](#)
- Android Applications** (Dec '16)
- Created the following Android apps and optimized the speed of background tasks making the interface more User friendly and Interactive.
 - **Weather App**: to display weather forecast for preferred location using Udacity API [\[Link\]](#)
 - **Hydration Reminder**: to promote timely drinking of water by notifying user every 30 min. while charging. [\[Link\]](#)
 - **Music Visualizer**: to display the higher, middle and lower range of frequencies of a song. [\[Link\]](#)
- Designing & Building Humanoid Robot (Bachelor's Thesis)** (Aug '13- Mar '14)
- Built a humanoid robot having – Locomotion on Wheels, Hand Shake and Face Tracking –DC Motors (wheels) and Servo Motors (face). **Haar Cascade Classifiers (Open CV), Arduino Uno – Atmega 16 AVR**. [\[Report\]](#) [\[Videos\]](#)
Impact: Achieved a 95% facial distinction while ensuring security of the lab.
- One Eyed Robot, Tech Fest Shristi** (Jul '13 - Aug '13)
- Implemented facial recognition for passersby on a Webcam mounted on two servo motors tracking the face of human. Used **OpenCV** and **Arduino Uno** for controlled motion of webcam in the 3 degrees of freedom.