Mannika Garg

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Education

Indraprastha Institute of Information Technology Delhi, India 2016 – 2020
Bachelor of Technology in Electronics and Communication Engineering *CGPA: 7.63/10*

Shaheed Rajpal DAV Public School, Delhi,India 2015 – 2016
Central Board of Secondary Education, Class 12 *Percentage: 94.2%*

Delhi Public School Ghaziabad Vasundhara 2013 – 2014
Central Board of Secondary Education, Class 10 *CGPA: 10/10*

Experience

Software Development Engineer September 2020 – Present
Nua (Lagom Labs) *Mumbai, India*

- Currently working at Nua, an Indian feminine care brand focused on creating superior quality women care products and providing a safe space for women to discuss their problems.
- Working as a front-end developer on the project of migrating company's website to a new version of Magento gaining experience in HTML, CSS, Vuejs, vanilla js and php.
- Developed REST APIs in Node.js with AWS lambda to improve customer retention.
- Developed a cron job in Node.js to check for our product's serviceability at customer's pin-code and automate sending email notification for the same.
- Added Google Tag Manager datalayer for event tracking to the company's website.
- Integrated AWS Cognito with the company website to ensure secure and robust customer authentication.

Internship December 2019 – January 2020
National University of Singapore, Hewlett-Packard *Singapore*

- Worked on a joint project with NUS, a national research university of Singapore and Hewlett Packard Enterprise, an American information technology company.
- Built a wireless mesh network of radio nodes connected to sensors for prediction and early detection of forest fire.
- Worked on graph algorithms to optimally ensure data transmission during multiple node failures during forest fire.
- Integrated Azure IoTHub and PowerBI to our project for realtime data collection and visualisation respectively.
- Used Random forest Algorithm for prediction of fire spread and achieved an accuracy of 92.5% on the test data.

Training December 2018 – January 2019
Bharat Electronics Limited *Uttar Pradesh, India*

- Bharat Electronics Limited is an Indian state-owned aerospace and defence company. It primarily manufactures advanced electronic products for the Indian Armed Forces.
- Understood the concepts of FPGA design, gained hands on experience on VHDL and exposed to the live demonstration of radar system.

Internship June 2018 – August 2019
Techkatech Innovation Hub *Pune, India*

- Techkatech is digital inbound marketing, seo and web design agency in India.
- Worked on the frontend web development using HTML, CSS, Bootstrap and Javascript on two projects, one is currently being used as food delivery website and the other as Techkatech Innovation Hub's company website.

Projects

HandWash IoT | *IoT, Flask, Javascript, Firebase, Android, Tinkercad*

- Designed and build a portable and scalable IoT based handwash dispenser to remind the user to use hand wash when in close proximity of the water tap and monitor their handwashing compliance.
- Developed a flask based web portal which allows the admin to view live usage summary of all the users, select a particular user and duration to have a graphical view of their usage, an option to download all the data as csv.
- Developed an android application for the user to help them track their usage and used google firebase for realtime data storage.

Stress Detection from PPG Signal | *Python, Pandas, Numpy, Matplotlib, Scikit-Learn, Flask, Javascript*

- Used machine learning and signal processing to detect stress from PPG signals with an accuracy of 97.3%.
- Extracted features over the window of 4 secs and used them to obtain the stress labels.
- Used accuracy and F1 score to compare different machine learning models including Random forest classifier, Gradient boosted decision tree, X gradient boosting and Tree based pipeline optimization tool.
- Developed an application using flask and javascript for visualisation of PPG signals with stress labels.

Image Retrieval system for beauty products | *Python*

- Developed an image retrieval system for beauty products using image processing, computer vision and machine learning.
- Used pre-trained residual network for feature learning.
- Returned the top seven closest images from the database by calculating the spatial distance between the feature vector of the query image and the dataset images.

End to end image compression and decompression system | *MATLAB*

- Developed an image compression and decompression system to overcome the limitation on space and bandwidth while data transferring.
- Used signal processing (sampling, quantisation & huffman coding) to reduce the size of the and converted it into pulse suitable for transferring.

Logic design and implementation| *Cadence Virtuoso*

- Designed and simulated the logic ((A.B + C.D)'.E)' in the tool Cadence Virtuoso.
- Understood the trade offs involved in the design process.

Game development| *Verilog*

- Developed a FPGA based, single user block game with 5 difficulty stages in verilog.

Robotic Arm| *Arduino Programming, Android*

- Made a robotic arm which could be controlled from an android application using arduino and motors.

Classroom Booking System| *Javafx*

- Developed a system application project used for managing the time tables of admin, professors and students. It also had features like requesting and booking classrooms and courses.

Air writing recognition system| *Python*

- Used Computer Vision and Image Processing for real-time tracking of object and detection of text written in air.

Awards and Achievements

- Secured a rank of 194 out of 1293 contestants in Google Code Jam to I/O for Women 2020.
- Received Grade A in Letter of Evaluation at National University of Singapore.
- Awarded certificate of proficiency with an 'A' grade in Advance Java organised by DUCAT Ghaziabad, India
- Successfully completed cousera's course on Deploy Models with TensorFlow Serving and Flask.
- Received Academic Excellence Award for being the class topper in Classes 6 to 11.

Organisational Role and Extra Curricular

- Taught computer science to under privileged girls as a part of All India Women's Conference NGO.
- Headed a team of 30 volunteers to organise a month long summer camp at IIITD for 170 under privileged students from 5 nearby government schools.
- Organised a workshop on gender equality along with ITC Vivel.
- Worked as a part of cultural fest and sports fest organising teams at IIITD.
- Secured 2nd position in Table Tennis out of 30 teams at IIT BHU sports fest, Spardha
- Secured 3rd position in Atheletics out of 17 teams at IIT BHU sports fest, Spardha
- Secured 1st position in Table Tennis, Volleyball and Cricket in college intramurals at IIITD.