Viswateja Gajulavarthy
BTech Computer Science and Engineering
Indian Institute of Technology Delhi

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EDUCATION

- **Indian Institute of Technology Delhi** 2017
  BTech in Computer Science and Engineering *5.589/10*
- **Sri Chaitanya collage** 2011
  Intermediate first and second year *876/1000*
- **Gowtham Concept School** 2009
  Senior School (CBSE) *402/500*

SCHOLASTIC ACHIEVEMENTS

South Indian Maths Olympia . . . . . 11th rank
Indian Chemistry Olympiad . . . . . qualified for the Indian Chemistry Olympiad
Joint Entrance Examination . . . . . 37th(SC) rank
All India Engineering Entrance Examination . . . . . 8th(B Arc) rank

IIT DELHI THESIS

1. Optimizing Forward Pass of CNN for Face Recognition

Supervisor	Prof. Kolin Paul
Description	Static Timing Analysis (STA), FPGA / ASIC Design of a module to optimize the forward pass calculations for a given convolution neural network and images as input
Contribution	Implemented the FPGA design for the module to take Convolution Neural Network and the input images and compute the following weight calculations for the forward pass of the convolution neural given as input. Optimized area efficiency in implementation of the module. Tested on Zynq board 7000.

2. Analysis and Security check of the Apks which can be obtained from alternative Play Stores.

Supervisor	Prof. Kolin Paul
Description	To extract the permission which are asked in APK and raise security risks for the call graph generated and checking the malicious use of permission asked and not using any function call registered with the Permission asked.
Contribution	Implemented a python application to extract the information form the apk to know the basic details of the apk. Then we used the function graphs which are generated using the call graph of the apk to find any possible security threats. We identified malicious application which had constants like phone number or web url to snitch information. We identified the permission gap between the apk listing and the permission used in the call graph of the application.

PROJECTS

1. PING PONG GAME

Supervisor	Prof.M. Balakrishnan
Description	Implemented the ping pong game on the Spartan board With UART input and output. using game engine on the spartan Board. and UART to display the game on the vga output to display it on monitor and take key inputs from the keyboard.
Contribution	Worked in team (2) to develop the Static Timing Analysis (STA), FPGA / ASIC Design of Ping Pong game. Learn how to use UART to communicate with the spartan board and implemented the design to control the ping pong game with keyboard and display form vga port. We finally demonstrated the ping pong game with controls using keyboard and display through vga.

2. Face Recognition.

Supervisor	Prof. Kolin Paul
Description	Implement a low computational Face Recognition algorithm on Intel Galileo board.
Contribution	Worked solo to list out all the low computational Face Recognition algorithms and implement the Face Recognition on the assigned board. Face Recognition using CNN and Pre-computed neural network with sample image. Big over head of computing CNN net and give weights as input to the circuit. Fast computation in forward pass of CNN net.

3. Robot Navigation.

Supervisor	Prof. P. V. Madhusudhan Rao
Description	Given rectangular terrain with polygon obstacles, start point and end point, to compute the nearest path through terrain.
Contribution	Worked in team (2) to simulate the robot navigation in rectangular terrain with polygon obstacles in shortest path from start point to end point. We first read all the algorithms to find the best path. Then we opted to pick A* Algorithm to plot the shortest path from start to end point. Then we simulated the whole process using Matlab.

4. Library Management Application.

Supervisor	Prof. Maya Ramanath
Description	Developing an application for managing the booking of books form library and maintaining the record of the books which are available at the library and which are in queue to be issued to the people who are registered through application.
Contribution	Worked in team (3) to develop the model using E-R Diagrams and then implementing the total idea and model into PostgreSQL and then use PhP to handle the database calls and Triggers. Finally we submitted the working Library Management Application with the following features. Register, maintain cart to add and remove books of interest, Check out, Check In, Bill payment, Registering and maintaining of the books in the LMS.

5. Data Visualization.

Supervisor	Prof. Aaditeshwar Seth
Description	Given data of the conduct and actions of the people of 15th Lok Sabha. Derive implication out of the given data using data visualization (PREFUSE JAVA).
Contribution	Worked in team (3) to create java applet to present the data using PREFUSE java library and got some implication of the data collected. Finally we presented an application to show the interactive info graphics. In extension of project developed website to show info graphics and the conclusions driven from the data provided.

6. Racing Car Game.

Supervisor	Prof. Prem Kalra
Description	Develop Game Engine, Physics Engine and Graphics for Racing Car Game. Objective was to make the racing game as real as possible with real time physical conditions.
Contribution	Worked solo to develop Racing Game. Worked in openGl C++ library, and implemented the Game Engine and Physics Engine to control the objects in the view port of camera used in game. Implemented track design builder with texture mapping and depth mapping using gray level to depth map in landscape building. Worked in blender to develop the models and imported them as mesh to render in openGl lib in c++.

Internship

Company	BMS WEBTECH PRIVATE LIMITED (20 th May 2014 to 30 th July 2014)
Description	Android Application development.
Contribution	Worked in Team (4) to develop and design the Android application. Got familiar with the project developed so far and then worked with the team to draw new branches to the mother application and patch it with the main application after a series of tests. We also designed UI/UX for the application. We worked on already developed (partially) e commerce application for medical appliance. Finally we changed the look and feel of the application and we have removed the inherent web views which were directly used in native android application derived from the website. We developed needy features for the application.

POSITION OF RESPONSIBILITY

1. Board for Student Welfare Representative

Description	To have insight of student grievances and to work in group to solve the problems faced by students. To conduct the B.S.W fest called Speranza 12.
Contribution	Have sorted out the problem of getting question papers by extracting the question papers and sorting them into the respective domains, finally hosted a repository to get the previous years question papers for both major and minor. Worked for Development of conditions in Student Activity Center. Worked in Team to host B.S.W Fest called Speranza 12.

2. Volunteer VR1 forever Charitable Trust..

Description	Acted as volunteer of VR1 during Speranza 12 at IIT DELHI in Various activities like Workshop, Marathon, Stall etc.
Contribution	Instructed the NGO VR1forever Charitable Trust from A.P to Delhi. Coordinated and Volunteered in Workshop, Stall and conducted the Marathon run, Etc. for Fund raiser event in Speranza 12.

3. NCC

Description	Attended the National Cadet Corps Unit Camp
Experience	As per the instruction of our captain successfully learn assembling and disassembling rifled musket, firing in range, horse riding , camping , navigation, mountain climbing and cartography

EXPERIENCE

1. Android Developer

Description	Joined Start Up Otracko
Contribution	Have worked for the Otrako as android Developer for the development of the android application. Coded the android application for the web application which has been already developed. Have made a prototype using the webviews and then converted the web application into the native android code.

2. Full-end Developer

Description	Joined Start Up Optana
Contribution	Working with the company elkosta security system to develop a GPS Device(Iconcox GT800) communication Protocol for communication with the server. This was a TCP communication which the device has some norms and allowed bidirectional communication from server and the terminal which is installed in the car for security and warnings to the clients who want to monitor the device. Working with them to develop navigation from the callerID and the signal strength.

3. Developer

Description	Co-founded Start Up EBEE IT SOLUTIONS PVT LTD (OPC)
Contribution	Started Free Lancing in my 2nd year. Started as beginner Android and iOS developer. published Tempest 14 iOS application in app store. and few other application in the play store.

TECHNICAL SKILLS

1. Android Development

Android Application	development proficiency in UI/UX, JAVA, ADT.

2. iOS Development

iOS Development	proficiency in Objective C, Swift.

3. Web Development

Back-end and Front	proficiency in PHP, NodeJS, Python, Java, golan, Html, css, js, ajax.

4. Database Development

Database Architecture	proficiency in Sql and NoSQL Databases for example mysql, mongodb, radis etc.

5. Graphis Development

Graphics design	proficiency in OpenCV. as in scene creating and controlling scene in opencv engine and animation engines like MAYA AUTODESK etc.

6. Digital Hardware Design Development

Hardware design	proficiency in the architecture of asinc design in verlog and VHDL over FPGA(zynq xillinx) and micro-controller (rasberryPi, INTEL Edition) design.

7. Transistor Development

Transistor	proficiency in modeling TCAD, NGSPICE for transistors like TFET.

8. Functional Language Development

Functional	Languages like proficiency in Ocaml, ml, lisp.

9. IOT VR AR Development

Description	This opens up my work in IOT, VR, AR using above skills.

10. Artificial Intelligence and Machine Learning Development

AI and ML	proficiency in Tensor-flow. and other Deep learning Machine Learning frameworks using js, go, python and R