

# AYUSH PATEL

B.Tech, Computer Science and Engineering  
Indian Institute of Technology, Delhi

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## ACADEMIC DETAILS

Year	Degree	Institute	CGPA/Percentage
2016-2020	B.Tech in Computer Science and Engineering	Indian Institute of Technology Delhi	9.040/10.0
2016	Class XII, CBSE	O. P. Jindal School, Raigarh (C.G.)	97.8%
2014	Class X, CBSE	O. P. Jindal School, Raigarh (C.G.)	10/10

## SCHOLASTIC ACHIEVEMENTS

- **Top 1%** in the country in **All India Senior School Certificate Examination (AISSCE)** Class XII Examination
- Secured **All India Rank 192** in JEE Mains and **All India Rank 575** in JEE Advanced among 2 million students
- Selected as **KVPY Scholar** under 'Kishore Vaigyanik Protsahan Yojana' organised by Indian Institute of Science
- Awarded **IIT Delhi Merit Scholarship** for being in the **top 7%** among 850 students in the 1st and 2nd semester
- **State Topper** in All India Senior School Certificate Examination (AISSCE) for Class XII, 2016 (Conducted by CBSE)

## CORPORATE EXPERIENCE / INTERNSHIPS

### Service Planning & Partnership Management

*Solution Architect and Strategic Partnership/ Business Strategy*

**Samsung Electronics (HQ), South Korea**

*1 Nov 2023 - Present*

- Design and manage the System Integration (SI) Solution Architecture of 5G/O-RAN for various COTS, CaaS, RU/MMU
- Layout process for System Integration and service delivery of Service Management and Orchestration (SMO) and rApps
- Strategic Partnership Management (new business strategies, maintain relation, etc.) for Hyperscalers and COTS vendors

### Advanced Cloud Native Solutions

*Software R&D (Cloud Platform/Infrastructure Development & Operations)*

**Samsung Electronics (HQ), South Korea**

*1 Oct 2020 - 31 Oct 2023*

- Develop Cloud Native Load Balancer for various protocols for 5G vCore & vRAN using Kubernetes Operator Framework
- Work with cloud native tools & plugins like helm, ansible, multus, cilium, DPDK, SRIOV etc. on public & private cloud
- Contribute to open-source projects like whereabouts, multus and other libraries and participate in community discussions

### Tech Lead

*Corporate Experience (Management & Operations)*

**Halanx Technologies Pvt. Ltd.**

*11 Jan 2020 - 8 May 2020*

- Led the Technical team comprising of App Developers, Backend Developers, Frontend Developers and UI/UX Designers
- Developed Rental Housing Solution to reduce the operating cost of owners and provide affordable housing to the tenants

### Cloud Network Platform Development

*Summer Internship (Cloud Software R&D)*

**Samsung Electronics (HQ), South Korea**

*May 2019 - July 2019*

- Developed a Generic Toolkit for Profiling, Debugging, Automation and Monitoring Health of any Kubernetes Cluster
- Improved the available Samsung Cloud Platform (SCP) Toolkits for incorporating various CNIs (eg. OpenStack Kuryr)
- Developed Real-Time Log Parser, Analyzer and Summarizer for Root Cause Analysis of Errors and Cluster Breakdown

### DashCam Car Accident Prediction

*Summer Internship (Artificial Intelligence/Machine Learning Research Project)*

**ITRI, Hsinchu, Taiwan**

*May 2018 - July 2018*

- Built Python module to crawl DashCam Videos from web and separate clips from these videos that contain car accidents
- Worked with OpenCV, scikit-learn, YOLO, Tensorflow etc. to train car accidents prediction model for self-driving cars

## MAJOR PROJECTS

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- Automotive Security System** Prof. Smruti Ranjan Sarangi (CSE, IIT Delhi)
- Studied the architecture of Controller Area Network (CAN) bus and Plug-in Hybrid Electric Vehicle (PHEV) Technology
  - Devising an improved architecture which tackles the existing security vulnerability without hampering the performance
- Nokia ML Hackathon Platform** Prof. Niladri Chatterjee (Maths, IIT Delhi)  
Develop a platform to host large scale Data Science Hackathons using Hadoop, Docker, JupyterHub, NodeJS, Django
- Tank Assault (DevClub IITD Project)** DevClub IIT Delhi  
Developed a web based multiplayer game with Node.JS as Backend server and used sockets for real time communication
- Protective Cover for Mobile Phones** Prof. Sudipto Mukharjee (ME, IIT Delhi)  
Designed and Implemented embedded system of a phone cover whose corners expand on falling(used SMA and AtTiny)

## COURSE PROJECTS

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- Baadal (IITD Computing Cloud)** Prof. Suresh Chand Gupta, September, 2020 - November, 2020  
Implemented Load Balancing Module, On-Demand VM migration system and Resource Monitoring dashboard in Baadal
- Extended Xv6 Operating System** Prof. Smruti Ranjan Sarangi, March, 2019 - May, 2019  
Implemented various system calls, interrupt handlers, copy-on-write (COW) fork and deployed a fair scheduling algorithm
- Multicycle ARM Processor** Prof. Anshul Kumar, March, 2018 - April, 2018  
Developed a Multicycle processor for the ARM ISA in VHDL on FPGA, implementing AHB Lite Bus for connections
- Prolog Interpreter** Prof. Sanjiva Prasad, March, 2018 - April, 2018  
Implemented an interpreter for Prolog in OCaml using OCaml-lex for token generation and OCaml-yacc for parsing
- Software Package for Engineering Drawing (ED)** Prof. Subhashis Banerjee, January, 2018 - February, 2018  
Used OpenCV and Qt C++ to build a software package for performing ED operations on a given 3D model / 2D figures
- Elevator Control System** Prof. Anshul Kumar, August 2017 - September 2017  
Designed and Implemented an Elevator Control System to serve simultaneous requests on multiple lifts
- Game-Bots using ML and AI** Prof. Mausam (October 2018), Prof. Parag Singla (March 2019)  
Built Robots for numerous games (eg. Yinsh, Arkanoid) using Q-learning, CNN and various Deep Learning Models

## TECHNICAL SKILLS

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- **Programming Languages:** C, C++, Java, C#, Python, JavaScript, PHP, SQL, Bash, VHDL, LaTeX, Ocaml, Prolog, Scala, XML, Go, Rust
- **Softwares and Frameworks:** Docker, Kubernetes, OpenCV, Openstack, OpenMP, MPI, CUDA, Ansible, Django, NodeJS, Angular, React, Android Studio, React-Native, Cordova, Flutter, Eclipse, NetBeans, Git, Xilinx ISE, Unity, Vivado, MATLAB, Visual Studio, Apache Hadoop, Spark, PyTorch, Tensorflow, KVM, QEMU, Neutron, GAMS

## EXTRA CURRICULAR ACTIVITIES & POSITION OF RESPONSIBILITIES

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- **President of IIT Alumni Association of Korea** (IITAAC: <https://www.iitalumkorea.org>) (May, 2021 - Present)
- **Overall Coordinator / Manager / Developer** of Nokia Data Science Hackathon IIT Delhi (April, 2018)
- **Executive Team Member and Developer** in **DevClub** (Developers' Club IITD) (January, 2017 - July, 2018)
- **Computer and Library Secretary** and **Mess Secretary** of **Satpura Hostel, IITD** (April, 2018 - March, 2020)
- **Technical Secretary cum Coordinator** in **BHM, BSA, BRCA, AAIP, SAC** in IITD (April, 2017 - March, 2019)
- **Technical Coordinator** in **Tryst** (Technical Festival of IIT Delhi) (May, 2018 - April, 2019)