Ashutosh Kakadiya

curriculum vitae

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Educational Qualifications

2018 (Expected) **B.Tech.**, *School of Engineering and Applied Science, Ahmedabad University*, India, *CGPA 3.40/4.33 till 6^{th} semester*.
ICT (Information and Communication Technology) Engineering

2014 **HSC**, *Sarvoday Vidhyamandir*, Ahmedabad,India, .
Obtained 92% in Higher Secondary Certificate Examination conducted by G.S.E.B.

2012 **SSC**, *Sarvoday Vidhyamandir*, Ahmedabad,India, .
Obtained 96% (6^{th}rank in Gujarat state) in Secondary School Certificate Examination conducted by G.S.E.B.

Academic Projects

2017 **Generative Models (for images) (ongoing semester project)**.
Joint Course project in Machine Learning and Algorithms and optimization on big data under guidance of Prof. Sanjay Chaudhari and Prof. Rantnik Gandhi(SEAS, Ahmedabad University)
- Understand Generative Models.
- Implement Generative Models using Probabilistic Principal Component Analysis.
- Developing algorithm for generating similar images on the basis of trained class images.

2016 **Context Switching Simulation**.
Course project in Operating System under guidance of Prof. Sanjay Chaudhari(SEAS, Ahmedabad University)
- A simulation model of Context switching using User Level Threads.
- Implemented various algorithms for scheduling.
- Handling user interrupt and I/O interrupt.
- After execution of each instruction, write the basic details such as timestamp ,type of the instruction in the log file for dispatcher.

2016 **Mini TCP-IP protocol for file transfer**.
Course project in Operating System under guidance of Prof. Manish Chaturvedi (Nirma University)
- The objective behind this project was to learn the fundamentals of the computer networks and socket programming in C.
- Have implemented all the 4 layers. Each layer adds the corresponding header and writes the data to a temporary file which is passed to the next layer.
- 3-way Handshaking in Transport layer has been simulated using socket programming.
- In MAC layer all the data is kept in a single frame and that frame is sent through socket once again.

2015 **BRTS guidance app**.

Course project in Data structures and algorithm under guidance of Prof. Naveen Kumar(DAIICT)

- App shows the possible transport path for user from current bus station to destination station of BRTS network system of Ahmedabad.
- Implementation of different Graph Theory algorithms for various functions like calculating distance, path findings.
- User can able to find stations, distance between two stations and approximate arrival time in certain assumptions.

2015 **WI-ROBOT (Surveillance robot)**.

Course project in Embedded System under guidance of Prof. Anurag Lakhlani (SEAS, Ahmedabad University)

- WI-ROBOT is mechanical surveillance system that controlled by from any place through Internet.
- ATMEGA 32 micro controller chip to programmed a robot in C programming.
- DTMF decoder to decode the instructions send by who control the robot.
- Servo motor is added for 180 degree view for surveillance.

2015 **School Database system** .

Course project in Database Management under guidance of Prof. P.M Jaat (DAIICT)

- Design a School Database Management System based on real world scenarios and design database to store the various information based on school management.
- Following all key concepts like ERD, Functional dependencies, Normalization etc.
- Some problem solving by SQL queries, functions, trigger in MYSQL software.

2015 **Attendance counting System** .

Course project in Linear Algebra and Signal and Systems under guidance of Prof. Mehul Raval and Prof. Ratnik Gandhi (SEAS, Ahmedabad University)

- Counting the attendance of students in class using different Image processing techniques.
- Image compression by using SVD decomposition of Image matrix.
- Using separation technique, recognizing head of students.
- Identifying head of students and counting.Accuracy upto 85-90

2016 **Case study of a Manufacturing Company** .

Course project in Operational Research under guidance of prof. Neha Gadhvi (H.L College of Commerce)

- Analyze company's profile, various costs like transportation, manufacture, maintenance costs etc.
- Solving different problems related to manufacture, transportation, optimal time to replace a machine using Linear programming.
- Asserted improved results to company for better quality and profit.
- Using PERT-CPM result successfully find,In which phase of project time is more consumed.

Achievements

2016 **IEEE EXTREME**.
Secure 25th rank in all over India in 24 hour algorithmic programming competition held by IEEE.

2016 **University level Runners up in Programminng contest**.
Secure 2nd position in programming contest at Ahmedabad University and Informatics Institute of Technology, Shri Lanka.

2016 **Secure 4th position in CodeoverSeas**.
Secure 4th position in programming contest jointly held by Ahmedabad University, India and Informatics Institute of Technology, Shri Lanka.

2015 **Network Science Course**.
Successfully completed short term course Network science by Dr.Chintan Vaishnav,Senior Lecturer and Academic Director of MIT Tata Center for Technology and Design at MIT.

2015 **Project selection**.
Two course projects are selected for annual exhibition by IEEE branch of Ahmedabad University.

2014 **Indian Oil Scholarship**.
Selected for Indian Oil Corporation Student Scholarship for Academic excellence.

2014 **Merit Scholarships**, *GSEB*, India.
Awarded the GSEB Merit Scholarship for professional Studies.

Technical Skills and Interests

Interests	Artificial Intelligence, Machine Learning, Data Science, Designing Algorithms, Design Thinking, Entrepreneurship, Solving puzzles
Languages	Python, C++, JAVA, C, MYSQL, Bash, VHDL, MIPS Assembly
Software Packages	Major Data science packages of python, Matlab, Django, Xilinx, OpenCV, Latex
Platforms	Linux, Windows

Relevant Courses @ SEAS, Ahmedabad University

Algorithms and Optimization on Big Data*

Machine Learning*	Digital Signal Processing*
Design and Analysis of Algorithms	Analog and Digital Communication
Software Engineering*	Digital Signal Processing
Data Structures and Algorithms	Signals and System
Database Management System	Probability and Random Processes
Embedded System	Electo-Magnetic Theory
Object Oriented Programming	Discrete Mathematics
Computer Organization	Linear Algebra
Digital Design	Calculus and Differential Equation
Basic Electronic Circuits	Environmental Study
Introduction to Programming	Economics

Operational Research	User Central Design
Communication Skills	Spanish*

* Completed in May 2017

Relevant Courses @ Udacity

Intro. to Artificial Intelligence (Ongoing)

Design of computer programs

Intro. to Computer Science

Positions of Responsibility

- Voluntary Committee member of Ingenium Technical fest of SEAS, AU 2017
- Volunteering in musical event, organized by cultural fest of SEAS, AU 2017

Extra-Curricular Achievements and Activities

- Member of IEEE student branch of Ahmedabad University.
- Volunteering in Technical Fest of SEAS, Ahmedabad University.
- Active member of Programming Club, SEAS AU. Held lectures on programming and participated in programming competitions on various online platforms.
- Winner, Bronze Medal for my painting entry in the Navneet Drawing Children's Competition.