Parshwa Shah

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ACADEMIC DETAILS

Degree	Institute / School	Board/University	Year	Results
BTech (ICT) High Excellence	School of Engineering & Applied Science	Ahmedabad University	2016-2020	3.34/4 (CGPA)
HSC	Mahendra Kanaiyalal Secondary and Secondary School, Ahmedabad	Gujarat Secondary and Higher Secondary Education Board	2016	97.53 percentile
SSC	Mahendra Kanaiyalal Secondary and Secondary School, Ahmedabad	Gujarat Secondary and Higher Secondary Education Board	2014	98.52 percentile

TECHNICAL ELECTIVE

- Machine Learning
- Data Analytics and Visualisation
- Cloud Computing
- Internet of Things
- Digital Image Processing
- Models of Computation
- Advanced Statistics
- Advanced-Data Structures and Algorithms
- VLSI Design
- Integrated Circuit and Device Technology

SCHOLASTIC ACHIEVEMENTS

- Scored 97.53 percentile rank in HSC, March 2016, where approximately 1.5 lakh students appeared for the exam.
- Scored 98.52 percentile rank in SSC, March 2014, where approximately 10 lakh students appeared for the exam.
- Secured 8th rank internationally in the 6th International Mathematics Olympiad held in December 2012.
- Secured A grade in Intermediate Exam Conducted by State Examination Board Gujarat State in November 2012.
- Secured 15th rank internationally in the 14th National Science Olympiad held in November 2011.
- Completed ALOHA Mental Arithmetic Program from Level 1 to Level 8 with 100% at all levels.

EXPERIENCE

- **Undergraduate Teaching Assistant, Ahmedabad University**
  Course Data Science: This course taught various concepts of data science which involved recording, storing and analyzing data to gain insights and knowledge for decision making.   **July'19 - Nov'19**

RESEARCH

- **PeR-ViS: Person Retrieval in Video Surveillance using Semantic Description**
  IEEE/CVF Winter Conference on Applications of Computer Vision Workshops (WACVw) - The 3rd International Workshop on Human Activity Detection in multi-camera, Continuous, long-duration Video (HADCV'21), 2021 (Oral)   **May'20 - Oct'20**

- **Bhaskaracharya Institute for Space Applications & Geo-informatics**
  Position- Intern
  Skills used- Django, TensorFlow, Keras, SQLite, QGIS, Python, HTML, CSS, Bootstrap, Javascript
  Achilles is a web application designed to automate the work of labelling various datasets manually and to perform time-series analysis on Aerial Images using Semantic Image Segmentation. Time series analysis on Aerial Images was used in tracking various environmental changes such as deforestation, afforestation etc and other changes such as Rural development, urbanization.
  Team Size-1   **Jan'20-May'20**

- **Geeky Bee AI Private Limited**
  Position- Computer Vision Intern
  Skills used-TensorFlow, Keras, CV2, NumPy, Python
  This internship consisted of designing an automated system for a shirt button factory. The designed system was made for counting the number of buttons produced and detecting faulty buttons with the help of a camera.
  Team Size-1   **May'19-July'19**

- **A. M. Patel ISLA Pvt. Ltd.**
  Position- Summer Intern
  Skills used- Python, OpenCV, scikit-image, NumPy
  This internship consisted of applying various image and video processing techniques (motion blur and applying various filters) in order to make the images and videos captured from the site of an accident more visible so that one can assess the loss more accurately.
  Team Size- 2
  May'18-July'18

- **Shree Rang Maternity and Orthopedic Hospital**
  Position- Intern
  Skills used- phpMyAdmin, CSS, HTML, PHP
  Developed an Enterprise Resource Planning Software System for managing the hospital. This application helps in managing all the data required by a hospital safely and securely. Hospitals staff can view this software from a different perspective (i.e a doctor, nurse, receptionist, pharmacist etc can log in and can use it) as if its combination of different software where one can see his part. Staff can modify the data per access provided to them by the management.
  Team Size- 3   **Dec'17-Jan'18**

- **Marverick Events Pvt Ltd.**
  Position- Project Supervisor
  Responsible for supervising companies' projects and responsible for delivering the project's work on time.
  Team Size- 1   **May'17-July'17**

- **Big-Data as a Service (BDaaS) and Function as a Service (FaaS) for Online Multiplayer Survival Games**
  Mentor- Dr. Sanjay Chaudhary
  A distributed solution of storing and performing analytics on game data of most popular games such as PUBG, CS: GO, Fortnite, Dota 2 etc. H-Base was used to store data and the client can retrieve his game data using a REST API. For data analysis, Spark was used so that the client can easily perform data analytics on a cluster of computers or can use some of our services to perform analysis.
  Team Size- 4   **July'19 - Nov'19**

- ♦ **Facial Expression Recognition**
  Mentor- Dr. Mehul Raval
  Skills used- TensorFlow, Keras, Pandas, CV2, NumPy, Python
  Comparison of neutral and non-neutral network-based approaches for the problem of face and expression recognition. Different machine learning models like CNN, Artificial Neural Networks, Naive Bayes, SVM, KNN etc were trained and tested and their accuracies were compared.
  Team Size- 4   **Jan'19 - May'19**

- ♦ **Augmented reality viewer embedded with a haptic glove**
  Mentor- Professor Anurag Lakhlani
  Skills used- Arduino Programming, Arduino UNO, Python and various sensors
  Designed an Augmented Reality headset and an interactive glove. On the headset, one can put a smartphone over it and connect the glove with it. When this process is done, start any of the currently existing AR applications on your smartphone and the gadget will convert it into a 3D interactive experience.
  Team Size- 3   **Feb'18 - July'18**

- ♦ **JPEG Image compression**
  Mentor- Dr. Mehul Raval, Dr. Pratik Trivedi and Dr. Ratnik Gandhi
  Skills used- MATLAB, Verilog and Xilinx Zynq
  For a given grayscale image in raw format (ie in TIFF, PNG or RAW data format) this hardware implemented on Zynq FPGA (using Xilinx ISE design suite) would compress the image using JPEG 2000 compression technique. It can also handle real-time images as input as raw input and provide a compressed image in JPEG format.
  Team Size- 5   **July'17 - Dec'17**

- ♦ **XV6 Operating System**
  Mentor – Dr. Sanjay Chaudhary
  Skills Used - C and x86 assembly
  XV6 Operating System is similar to the Sixth Edition UNIX operating system implemented in ANSI C for multi-processor x86 systems. We reimplemented Bootloader module.
  Team Size- 4   **July'18 - Dec'18**

OTHER PROJECTS

- ♦ **ICU Monitoring System**
  Mentor- Professor Ashok Ranade
  Skills Used- Arduino Programming
  A real-time system that would run on Arduino UNO and check the patient's pulse rate, body temperature, humidity, ICU room's temperature and carbon-dioxide content in the room and would alarm using a buzzer, colours of led will change appropriately and each colour having some specific meaning if the readings are inappropriate for human health. It would also display the readings on an LCD screen.
  Team Size- 4   **July'16 - Jan'17**

- ♦ **Microprocessor**
  Mentor- Dr. Pratik Trivedi
  Skills used- Verilog and Xilinx Spartan 3E
  NTP is a real-time processor implemented in Verilog and tested on Xilinx Artix-7 FPGA. It is a RISC based 8-bit 5 stage pipelined processor with 28 instruction format and 579.67 Mhz clock frequency.
  Team Size- 4   **July'17 - Jan'18**

- **Languages:-** MATLAB, Python, C / C++, Shell Scripting, Java, R, Verilog HDL, SciLab, HTML, CSS, LATEX, Arduino, Octave, Photoshop.
- **Database:-** MySQL, SQLite, HBase, MongoDB
- **Tools and IDE:-** Netbeans, Jupyter Notebook Eclipse, Android Studio, SPSS, SciLab, MedCalc, Arduino IDE, Xilinx ISE Design Suite, LTSpice, Electric, Logisim, LabView, Wireshark, Atmel Studio, Anaconda, Spyder, mikroC.
- **Operating Systems:-** Windows, Linux (many distros).
- **Hardware:-** Xilinx Spartan 3E, Arduino UNO, Xilinx Artix-7, Xilinx Zynq-7000, ATmega32.
- **Frameworks and Libraries:-** Tensorflow, OpenCV, Keras, scikit-learn, NumPy etc

ACTIVITIES & HONOURS

Positions of Responsibility
- Class-Representative 2017-2019
- UG Academic Council Member 2018-2019
- Anti-Ragging Student Representative 2017-2019
- Peer Tutor for courses on Data Structures and Algorithms and Linear Algebra 2018
- Student MITR as a part of the Circle Of Care Initiative (2018): The Peer Support System at Ahmedabad University
- Volunteer (2018): Faculty Development Programme on "Advanced 5G Wireless Communications - Performance Analysis And Monte-Carlo Simulations" (As a part of DST-ASEAN and DST-UKIERI Research Project)

Co-Curricular Activities
- **Undergraduate Course Associate, Ahmedabad University**   **Dec'18 – Jan'19**
  Course Computational Thinking: This course taught various concepts of computational thinking, how computer scientists develop and analyze algorithms, and how solutions can be realized on a computer using Java.
- Completed MOOC courses such as
  - Hadoop 101
  - Machine Learning with Python
  - Machine Learning with R
  - Statistics 101
  - R 101
  - What is Data Science?
  - Open Source tools for Data Science
- Completed Google's Applied CS with Android Workshop in Ingenium, 2018.
- Participated in Ingenious Hackathon: Ingenium, 2018 (Technical Festival, SEAS).
- Participated in various coding competitions like Codefi, Codefeeder in Tech-Fest, 2017.
- Champions of Seas Cricket League (SCL) 2018.

Honours
- Local news corporation "Gujarat Samachar" featured our project (ICU monitoring system) (19th January 2017).
- 8-bit microprocessor designed by us was selected in an annual exhibition at Ahmedabad University. (Dec 2018).

Extra-Curricular Activities
- Volunteered at Blind People's Association as a part of the 'Swabhiman Programme'.
- Completed a 5-km fitness run hosted by Ahmedabad University in the year 2018 and secured medal.
- Swimming expert.
- Participated in Football Summer Coaching Camp at St Xavier's Loyola in 2010-11.