

Nikhil Shah

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Education

Indian Institute of Technology, Kharagpur	July, 2018 - May, 2021 (<i>expected</i>)	Bachelor of Technology Major: Computer Science CGPA: 8.85
Candlewick Public School, Jaipur	July, 2015 - June, 2017	High Secondary Certificate Aggregate: 91.8%
Tagore Public School, Jhunjhunu	July, 2014 - June, 2015	Secondary Certificate CGPA: 10

Research Experience

Visual Information Processing Lab, IIT Kharagpur May, 2019 - Present
Undergraduate Researcher
Topic: Design and Implementation of algorithms for visual object tracking
Research Areas: Computer Vision, Deep Learning, Sequence Models, Reinforcement Learning
Advisors: Prof. Jayanta Mukhopadhyay

Projects

Question Answering (*Ongoing*)
Design and implementation of algorithms to answer a question given the context.
Advisor: Prof. Sudeshna Sarkar
Research Areas: Natural Language Processing, Deep Learning

Kinship Relationship Prediction

Designed and implemented a Siamese convolution neural network based model to predict if two persons share kinship relationship based solely on the images of their faces.
Research Areas: Deep Learning, Siamese Networks
Repository: <https://github.com/itsShnik/Kinship-Relationship>

Astrea, Search Engine

Developed a search engine to efficiently retrieve information from a database consisting of more than 53000 legal documents.
Research Areas: Information Retrieval, Efficient Database Management
Repository: <https://github.com/itsShnik/Astrea>

Here I Am, Software Engineering Term Project

Developed a web application supporting multi user access for scheduling events and reminders with calendar integrated file management.

Advisor: Prof. Sudip Mishra

Repository: <https://github.com/itsShnik/Here-I-Am>

Compiler Design (*Ongoing*)

Design and Implement a tiny-C compiler following the language specifications based on ISO/IEC 9899:1999. The compiler will generate three address codes given the source codes.

Advisors: Prof. Partha Pratim Das, Prof. Pralay Mitra

Repository: <https://github.com/itsShik/Compiler-Design>

Multiple Cycle CPU Design(*Ongoing*)

Design a 16-bit multiple cycle CPU with limited instruction set using Verilog and FPGA for hardware testing.

Advisors: Prof. Bhargab B. Bhattacharya, Prof. Rajat S. Chakraborty

Skills

Programming and Web:

Python, C/C++, Java, JavaScript, Verilog, HTML, CSS, Django, Android

Frameworks and Tools:

PyTorch, TensorFlow, OpenCV, MySQL, Git, Shell, L^AT_EX, Markdown

Coursework Information

- CS231n : Convolutional Neural Networks for Visual Recognition
- Deep Learning Specialization (*Coursera*)
- Machine Learning
- Probability and Statistics
- Cryptography and Network Security*
- Discrete Structures
- Compiler Design(L)*
- Computer Organisation and Architecture(L)*
- Algorithms(L)
- Software Engineering(L)
- Switching Circuits(L)
- Programming and Data Structures(L)

() marked courses are still ongoing, 'L' marked courses have a laboratory component with them*

Responsibilities

Azad Hall of Residence, IIT Kharagpur

July, 2018 - April, 2019

Secretary Technology

As the secretary of technology, I was responsible for the participation of the hall team in the Technology General Championship, IIT Kharagpur. Our team won the overall Silver medal with Gold in Hardware Modelling, Silver in OpenSoft and Bronze in Data Analytics.

Space and Technology Society, IIT Kharagpur

July, 2017 - June, 2018

Associate Member, FQTQ

I have organized telescope sessions, workshops on Astrophysics and Astronomy and several other related events for the students of IIT Kharagpur and also for the National Students Space Challenge. I also contributed several articles on Astrophysics and Astronomy to the annual magazine **Moonwalk** of SpATS.

Awards and Achievements

OpenSoft, Techonology General Championship, IIT Kharagpur

2019

I was part of the team which secured 2nd position in OpenSoft, a software development competition.

JEE Advanced

2017

I secured all India rank 259 among more than 200,000 candidates who appeared in the Joint Entrance Examination Advanced.

JEE Mains

2017

I secured all Indian rank 732 among more than a million candidates who appeared in the Joint Entrance Examination Mains.

Regional Astronomy Olympiad

2016

I secured a rank in top 1 percentile among more than 6000 candidates who appeared in the Regional Astronomy Olympiad, Rajasthan.

Extra Curricular Activities

National Service Scheme, Ministry of Youth Affairs and Sports

July, 2017 - April, 2019

I was a volunteer at NSS, IIT Kharagpur. I organized multiple book distribution, cloth distribution campaigns to help the people of Poriapara village, Kharagpur. I also participated in the data collection for the water and sanitation facilities survey in the nearby villages of Kharagpur.

Inter-Hall Basketball, Azad Hall of Residence

I am an active Basketball player. I have participated in Inter-Hall basketball competitions in year 2017 and 2018 and our team won Bronze medals in both years.