

# Shashwat Kathuria

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## EDUCATION

<https://shashwatkathuria.github.io/>

**INDIAN INSTITUTE OF TECHNOLOGY, JODHPUR** | B.TECH. IN COMPUTER SCIENCE & ENGINEERING  
2017-2021 • CGPA: 8.89/10 • Department Rank 3

**G. D. GOENKA PUBLIC SCHOOL, NEW DELHI** | CBSE  
Class 10, 2015 | CGPA: 9.6/10 • Class 12, 2017 | Percentage: 96%

## TECHNICAL SKILLS

**Programming Languages:** C • C++ • C# • Python • Java • JavaScript • Scala • Ruby • Lua

**Web Development:** Django • Ruby on Rails • NodeJS • ASP.NET Core • Flask • HTML • CSS • JavaScript  
• Webpack • MongoDB • PostgreSQL • SQLite • Bootstrap

**Mobile App Development:** Android Studio • React Native

**Big Data:** Apache Spark • Hadoop • Synapse • HDInsight • Azure Data Factory

**Utilities:** Git • Raspberry Pi • Microsoft Azure • Heroku • AWS • MongoDB Atlas • Microsoft Substrate

## EXPERIENCE

**MICROSOFT** | SOFTWARE DEVELOPMENT ENGINEER 2 | LEVEL 61, LEVEL 62

September 2023 - Present | Noida | Microsoft SharePoint & Substrate

- Developed Score Data Lake, a **big data platform**, from scratch to **process massive amounts of audit and sites data and generate reports**, and added robust support for **parallelism and efficient pipeline resource utilization**.
- Expanded data access governance reporting** for administrators from **2 to 10+ new report types**, supporting multiple partner teams and **scaling the platform from 7,000 to 300,000+ tenants**.
- Designed, analyzed load and implemented** the Content Events feature end to end from scratch to **detect malicious users** performing high volume downloads, deletions, and sharing activities in tenants, **efficiently processing large scale activity data with limited resources** while collaborating with multiple internal teams and external stakeholders.
- Implemented using **Apache Spark, Scala, SQL, Synapse, HDInsight, Azure Data Factory, Microsoft Substrate, Cosmos, ASP.NET Core, .NET and C#**.




**MICROSOFT** | SOFTWARE DEVELOPMENT ENGINEER 1 | LEVEL 59, LEVEL 60

June 2021 - September 2023 | Noida | Microsoft SharePoint

- Worked on **backend, UI and joblets of data access governance section of SharePoint admin center website** to compute and show reports related to **sharing links of files and site sensitivity labels**.
- Implemented using **C#, ASP.NET Core, ReactJS and Webpack**.



**GOOGLE SUMMER OF CODE** | SOFTWARE ENGINEER INTERN, WIKIMEDIA FOUNDATION 

May 2020 - September 2020 | Blogs 

- Developed an **error tracking system** , surfaced the errors to **UI**  to keep users informed of update errors due to APIs, an **orphan lock removal procedure from background jobs**  and made course **data update process more efficient**.
- Implemented using **Ruby on Rails and ReactJS**.

**MICROSOFT** | SOFTWARE DEVELOPMENT ENGINEER INTERN

May 2020 - July 2020 | Hyderabad | Microsoft Garage, Teams & SharePoint

- Worked at **Microsoft Garage**  and developed a full mobile news application for iOS and Android **from scratch**, which was featured at **Microsoft Ignite and Hackathon (Android APK)** .
- Implemented using **React Native** and integrated the application inside **Microsoft Teams** mobile application.

## PROJECTS

### INTELLIGENT TRAFFIC MANAGEMENT SYSTEM | [GITHUB](#), [DEPLOYED](#)

Internet of Things (IoT), Raspberry Pi, Web Development

- Developed **dynamic signal time allocation** according to real time traffic count, **detection of intruders on road**, **audio detection of gunshots** and an **RFID based traffic penalty system** along with website.
- Implemented using **Raspberry Pi**, **PiCamera**, **RFID sensors**, **microphone**, **TensorFlow**, **OpenCV** & **Django**, **Bootstrap (HTML / CSS / Javascript)** and deployed traffic penalty system on **Azure**.

### SOCIALCLOUD | [GITHUB](#), [DEPLOYED](#)

Web Development

- Developed an **online social media website** for users to post images and follow others, like **Instagram**.
- Implemented using **Ruby on Rails**, a combination of **MongoDB**, **PostgreSQL** and **SQLite**, **AngularJS** and **Bootstrap (HTML / CSS / JavaScript)** and deployed on **Azure**.

### DRAWING CANVAS | [GITHUB](#), [DEPLOYED](#)

Web Development, JavaScript Application

- Developed an **online drawing application** to help users **draw**, **save** and **load** their drawings.
- Implemented using **ReactJS**, **d3JS**, **SQLite**, **PostgreSQL**, **Django** and **Bootstrap (HTML / CSS / JavaScript)** and deployed on **Azure**.

### HANDWRITTEN MATHEMATICAL FORMULAE - PAGE OBJECT DETECTION | [GITHUB](#)

Machine Learning, GPU

- Developed an **RCNN** model to **detect handwritten mathematical formulae** in documents and **generated the annotated handwritten document datasets** via **synthetic data generation technique**.
- Implemented using **Nvidia GPU**, **Python**, **TensorFlow**, **OpenCV**, **Keras**, **Pandas**, **Tkinter** and **Matplotlib**.

### PART OF SPEECH TAGGING | [GITHUB](#)

Natural Language Processing, Machine Learning

- Developed **Hindi Part of Speech Taggers** using **Hidden Markov Model** with **Viterbi's Algorithm (Bigram and Trigram)**, **Decision Tree Classifier Model Tagger** and achieved **92.85%** accuracy.
- Implemented using **Python**, **Scikit** and **NLTK**.

### CHAT APPLICATION | [GITHUB](#)

Progressive Web Application, Socket.IO, Web Development

- Developed a **progressive web application** allowing users to **chat one-to-one** and additionally **get reminders via push notifications** for tasks the user saves.
- Implemented using **NodeJS**, **ReactJS**, **MongoDB**, **ExpressJS**, **Webpack**, **Socket.IO** and **Bootstrap (HTML / CSS / JavaScript)**.

### IITJ HEALTHCARE | [GITHUB](#), [DEPLOYED](#), [DEMO VIDEO](#)

Software Engineering, Web Development

- Developed an **online health care assistance portal** to help students get **online prescriptions** from **doctors** and **availability of medicines** in medical store.
- Implemented using **Django**, a combination of **SQLite / PostgreSQL** and **Bootstrap (HTML / CSS / JavaScript)** and deployed on **Azure**.

## ACHIEVEMENTS & POSITIONS OF RESPONSIBILITY

- **Rank 2471, JEE Main** & **Rank 2848, JEE Advanced**, among top 0.2% of 1.2 million participants
- Online course certifications: **Data Structures & Algorithms Specialization (4 Courses)** (Stanford University), **Cryptography 1** (Stanford University), **MIT 6.00.1x & 6.00.2x Course** (Massachusetts Institute of Technology) & **CS50** (Harvard University)
- **School Topper**, Class 12 CBSE Exams
- Won **Football Inter-Zonals 2014-15**, New Delhi and **17 Awards in School Level Sports**
- **Vice Sports Captain**, Class 11 & **Sports Captain**, Class 12