# Vidit Agrawal

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## Academic Background

**University of Maryland, College Park** — May 2025 (Expected)
*Masters in Software Engineering* — *GPA: N/A*

**Indian Institute of Technology, Roorkee** — June 2021
*B.Tech. in Electrical Engineering* — *GPA: 8.055/10.00*

## Technical Skills

**Tools:** System Design, DSA, Database Management, Operating System, ML Algorithms, DL Frameworks, Graph Theory

**Languages:** C, C, C++, Python, JavaScript, Java, R, SQL, PHP, MATLAB

**Frameworks:** React.js, Node.js, Postman, Flask, DevOps, Azure, Scikit-Learn, PyTorch, Keras, TensorFlow

## Work Experience

**Microsoft Pvt. Ltd.** — Noida, India
*Software Developer* — *July 2021 – Aug 2023*

- Worked on the sovereign cloud buildout orchestration service in the team, Special Clouds, enabling one-touch automated buildout - with the north star goal to bring M365 Services' buildout time from 3 years to 3 months.
- Built product from scratch in C# and .Net incorporating high-level and low-level system design principles, and extensive unit testing with greater than 95% coverage.
- Collaborated with diverse partner teams, architects, and managers [EMs and PMs] to deliver M365 service in goLocals in days, which earlier took months.
- Managed Azure resources, led and developed in multi-faceted areas: Core Planner, CIS, Control Plane, AAD App.
- Introduced methodologies to enhance product definition, release processes, documentation, and service customization; Improved new-hire onboarding time to raise the first PR from 1.5 months to within a week.

**American Express** — Gurgaon, India
*Data Analyst Intern* — *May 2020 – July 2020*

- Delivered the project, "Time Series Forecasting Model using Geo-Aggregated Data," targeted to predict the effect of COVID-19 on credit card demand and prospect acquisition.
- Demonstrated detailed exploration, EDA, and Time-Series Models in Python and Panel-Data regression in R using open-source data affecting the US financial market.
- Utilized Google APIs and tools such as GCP, Google Trends, and Google Keyword Planner.

**Jawaharlal Nehru University** — Delhi, India
*Java Winter Intern* — *Dec 2018 – Jan 2019*

- Used Java RMI and fundamental PHP to code a servlet question-answer application.
- Devised a different server for storing the database using MySQL, transferred questions across to create a quiz, and displayed the final score and time taken on simple UI.

## Projects

**Crime File Management** | *React.js, Firebase, Python, ML Algo, Time-Series Analysis* — Sept 2020 – Apr 2021

- Created web application for the online registration and status check of complaints using React.js on frontend, FireBase for database, and Python for crime prediction.
- Implemented separate login for visitors, registered users, administrators, and selected police branches. Completed and presented design flow with both high-level and low-level design.
- Added ML classification and time-series analysis models to predict the type of crime most likely to occur at a given region (x) time. Also added a visualization dashboard on the frontend.

**Data-Driven Prediction of Battery Cycle Life Before Capacity Degradation** | *DL* — Jan 2020 – May 2020

- Used neural networks-based approach to predict the remaining lifetime of Lithium-Ion batteries using details concerning a few charging-discharging cycles.
- Designed and Implemented a multi-layer CNN using TensorFlow 2.0 with Keras on the backend to create a state-of-the-art solution.

**Movie Recommendation Web Application** | *React.js, Flask, ML Algo, NLP* July 2020 – Sep 2020

- Developed a Full Stack application for movie suggestions using React JS, Flask, and Machine Learning techniques.
- Utilized NLP and Cosine Similarity for recommending top 10 movies as per the filters based on Genre, Actors, Director, Language, and Popularity. Deployed on Heroku Cloud Server called blackboxasv.heroku
- Implemented Sentiment Analysis to show User Reviews using Emojis as per the sentiment.

**Flood Rescue Drone** | *Drones, DL Framework, YOLO, Rasberry PI* Feb 2019 – Mar 2019

- Detected flood victims using the YOLO framework, a DL algorithm for real-time object detection, and sent their GPS location to the rescue center using Quadcopter and Raspberry Pi.
- Displayed in Shrishti '19, IIT Roorkee Annual Techno-Hobby Exhibition and was the leading showcase in the exhibition.

## Awards & Achievements

**Inter IIT Cultural Meet'19** Acrylic Painting - 6th pos among pan-India
**Dare2Compete Online Hackathon'20** - 8th pos among 6700+ participants
**Coderulon'20**, IIT Roorkee - 6th pos among 4000+ participants
**Intra-College Badminton and Table Tennis** - 1st/2nd pos in singles-doubles in the years 2017-20
**IITR Heritage Fund Excellence Award'21** - best all-rounder with prize money of of INR 10k

## POR and Extra-Curricular Activities

**Artificial Intelligence and Electronics Society (ArIES), IIT Roorkee** May 2020 – May 2021

*Joint Secretary*

- Implemented computer vision and object detection models such as YOLO, InceptionV3 and OpenCV.
- Operated on microelectronics such as Arduino, Raspberry pi, encoders, and various sensors in several projects.
- Led to the foundation of Aero Club, ArIES, a club dedicated to projects on RC planes and drones.

**Fine Arts Society, IIT Roorkee** May 2020 – May 2021

*Add. Secretary*

- Led IIT Roorkee Fine Arts contingent comprising 14 individuals for the Inter IIT Cultural Fest'19 at IIT Bombay.
- Organized and participated in Darpan, the annual art festival at IIT Roorkee.

**Consulting and Analytics Group, IITG** Apr 2020 – June 2020

- Explored and implemented EDA, Data Pre-processing, Scrapping, and various Machine Learning algorithms in the "Summer Data Science Boot Camp" held by CAG, IIT Guwahati.
- Predicted IBM employee attrition in Covid-19 Kaggle Competition-Capstone Project; secured top 10 percentile.

**Codefundo++, Microsoft** Oct 2018

- Successfully built an android application, "Forum of Disaster Management," responsible for tackling the lack of public awareness in case of catastrophe using Android Studio and Firebase.
- Developed the app as a social platform that allowed people to tag pictures of 'disasters' along with their GPS location on a map to alert the residents and authorities in these locations.