

## Contact

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## Top Skills

Search Algorithms  
Heuristic Analysis  
Game AI

## Certifications

Deep Learning Specialization  
AWS Certified AI Practitioner Early Adopter  
Bachelor of Science in Computational Modeling and Data Analytics

# Farzan Mirza

MS in AI & ML from Drexel University | Founder and CEO of Optium Data Solutions LLP | BS in Computational Modelling and Data Analytics w Minor in CS and Mathematics from Virginia Tech  
Philadelphia, Pennsylvania, United States

## Summary

At the age of 11, I was captivated by Mark Zuckerberg's tale of birthing Facebook. The narrative of a young visionary, with just a laptop forging connections for billions, illuminated the profound potential of computer science.

As a graduate student at Drexel University's esteemed AI and ML program, this passion has taken shape through various projects. From delving into the nuances of brain activity to employing data analytics for predicting COVID-19 trends in Uttarakhand, every challenge has been an opportunity to innovate.

On the entrepreneurial front, I pioneered a startup that crafts a unique AI-driven Enterprise Resource Planning system. Beyond just code, this tool is a beacon for businesses aiming to harness the potential of data-driven decision-making.

Armed with a BS in Computational Modeling and Data Analytics from Virginia Tech, I've complemented hands-on experiences with robust academic grounding. As the AI landscape evolves, I commit to harness its vast potential for the greater good.

If you share this passion or have a perspective on AI's future, let's connect and build on those ideas together.

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## Experience

Optium Data Solutions LLP  
CEO & Founder  
June 2022 - August 2023 (1 year 3 months)  
New Delhi, Delhi, India

- Championed the creation and rollout of an ERP for web and Android, optimizing modules across procurement, manufacturing, HR, and sales.

- Seamlessly blended Angular for front-end development with PHP's Laravel for robust API connectivity.

Architected a dynamic RDBMS through MySQL, bolstered by an enhanced AWS cloud infrastructure harnessing AWS EC2, RDS, and efficient storage via S3.

- Seamlessly integrated the AGILE methodology with CI/CD pipelines on GitLab, utilizing both npm and Docker to ensure swift and dependable software deployments for Angular and Laravel platforms, respectively.
- Infused advanced decision-support mechanics into the software by integrating RandomForest and DecisionTree algorithms.
- Oversaw organizational facets ranging from recruitment to logistics, fostering cohesion among a team of 10+ developers adept in Angular, Laravel, and Java.
- Acted as the crucial liaison between our esteemed clients and the dedicated development team, ensuring the alignment of visions and surpassing expectations.

## Martian Subsurface Analysis Team

Treasurer & Programming Team Member

January 2019 - May 2021 (2 years 5 months)

Blacksburg, Virginia, United States

- Collaborated with a cross-disciplinary team of 40+ engineers to design an autonomous robot for NASA's Moon to Mars Ice Challenge.
- Employed Machine Learning techniques in Python to enable autonomous robot functions through real-time sensor data processing.
- Led fundraising efforts to secure resources for a functional robot prototype for NASA's Langley Space Research Center competition.

## Postdoctoral Scientist Dr. Aamir Abbasi

Research Intern

October 2020 - December 2020 (3 months)

- Spearheaded the development of a highly optimized Python-based linear regression model aimed at illuminating the relationship between average neuronal firing rates and the average Fourier power of Local Field Potentials (LFPs) within specific frequency bands.
- Employed Numpy and Pandas for comprehensive data preprocessing, coupled with the transparency of Matplotlib and Seaborn for insightful data visualization.
- Masterminded the model's optimization through Scipy's stepwise regression techniques, ultimately attaining a remarkable accuracy rate exceeding 90%

Indian Institute of Technology, Roorkee

AIML Research Intern

August 2020 - September 2020 (2 months)

- Conducted a rigorous time series analysis in Python to forecast fluctuations in COVID-19 cases within Uttarakhand.
- Employed Pandas and Numpy extensively for the preprocessing and storing of sequential data, encompassing daily reported cases, patient vitals, and symptoms.
- Trained recurrent neural networks, leveraging simple RNN and LSTM models with TensorFlow. This choice was driven by the task's inherent temporal dependencies and LSTM's ability to address the vanishing gradient problem, ultimately resulting in accurate predictions of daily case changes, achieving an impressive 82% accuracy rate.

Ogmat

Founder

May 2017 - June 2018 (1 year 2 months)

Kanpur

- Created a web platform connecting underprivileged students to online teachers, providing affordable study materials and support. Grew to 200+ users, 30+ teachers, and 270+ students.
- Developed technical infrastructure with MySQL, PHP APIs, and HTML/CSS/JavaScript for an intuitive interface.
- Implemented AWS deployment, utilizing EC2 and RDS instances while optimizing file management through the S3 bucket, bolstering network management capabilities.
- Secured partnerships with schools, enabling the platform to support underprivileged students.

Indian Institute of Technology, Kanpur

Programmer & Summer Intern

May 2017 - July 2017 (3 months)

Kanpur, Uttar Pradesh, India

- Engineered a distinct Network Monitoring Tool on the robust LAMP architecture, optimizing backend performance with PHP connecting to a MySQL database hosted on an Apache web server. Strategically deployed on AWS RDS and EC2 instances, bolstering network management capabilities.
- Crafted an engaging user experience with HTML, CSS, and JavaScript, enhancing the tool's front-end functionality for seamless navigation and data visualization.

- Instrumental in providing critical support to IIT network administrators, the Network Monitoring Tool significantly streamlined network management tasks and operations

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## Education

Drexel University College of Computing & Informatics

Master's degree, Artificial Intelligence and Machine Learning · (September 2023 - May 2025)

Virginia Tech College of Science

Bachelors in Computational Modelling and Data Analytics , Data Science · (August 2018 - May 2022)

UWC South East Asia

IB Diploma, Computer Science · (August 2015 - May 2018)