# AVDESH KUMAR SINGH

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## CAREER SUMMARY

I am an accomplished Expert Engineer with 9 years of experience at Fidelity International. My expertise lies in backend development and system design engineering, where I have made significant contributions to various impactful projects. Additionally, I have a proven track record in mentoring and leading teams.

## EDUCATION

Masters of Science – Informatics, IIC, University of Delhi, New Delhi, India  *2012 – 2014*

Bachelors of Science – Electronics, University of Delhi, New Delhi, India  *2009 – 2012*

## SKILLS

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|---|---|
| **Programming Languages** | Python, C, Javascript |
| **Databases** | Oracle, MySQL, NoSQL |
| **Tools and IDE** | Pycharm, FastAPI, Flask, Django, Pandas, Git, Terraform, Docker, Jenkins |
| **Technologies** | AWS, ECS, Lambda, SQS, Elastic Cache, S3, REST APIs, Microservices, Distributed Systems, System Design, SOLID, CAP. ACID, OOPs |

## WORK EXPERIENCE

**Fidelity International**  *March 2019 - Present*
*Expert Engineer (Python)*

- *Ultimus and Optimus:* Worked on multiple applications for Equity and Fixed Income Funds and developed backend services like Optimiser Service, Analytics Services using Python, FastAPI, Pandas, Oracle, AWS, ECS, Elastic Cache, Lambda, Terraform etc.
- Responsible for the development and delivery of backend services, front-end integration and designing end to end scalable services.
- Developed various features for the Portfolio Managers enabling them to grow their portfolio by multiple folds.

**Hughes Systique**  *November 2014 – September 2018*
*Senior Software Engineer*

- *Jupiter Satellite Tools Development:* Worked on various tools as a full stack developer.
- Travelled to Maryland, USA twice for requirement gathering and development kickoff of Gateway Configuration Tool features, Jupiter Web Dashboard, Plotting satellite beams on TMAP for over 1 million Terminal location data visualization on web app.
- *MEXSAT*: Worked on various embedded system features for RTOS based Reference User Terminal (RUT), a Satellite Communication Device. These features include Phonebook, Asset Tracking, Call History etc.
- Implemented rate limiting, multithreading and scalability to multiple hosts; automated the testing using JUnit and Mockito and delivered a working CLI tool.

**Personal Project**

- *Strategy-Trading*: I have developed Strategy based Investment Back-testing software which can generate BUY/SELL trade signal for the portfolio based on different strategies. The data source being used is NSE. This strategy helped getting XIRR >25% on ETF based portfolio during any type of Market move.

## PROFESSIONAL ACHIEVEMENTS

- Developed cloud-based design by introducing AWS Elasctic Cache resulting in 5 times faster response time of the Api.
- Reduced AWS account cost by design changes having ECS tasks being replaced by Lambdas
- Took complete ownership of migrating the on-prem microservice to AWS of various services of an application
- Decomposed Monolith architecture of an application into distributed architecture having multiple microservices resulting in independent development, testing, releases and better management of app
- Developed Fund rebalancing Optimizer service based on Barra open optimizer which helped PMs generate more fund inflows and better fund management
- Helped in creating migration strategy for moving 500+ CI/CD pipelines to AWS based Jenkins from on -prem Bamboo and Urban deploy
- Visited US twice for development and delivery of large software modules supporting Satellite launches