

# AVDESH KUMAR SINGH

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## CAREER SUMMARY

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I am an accomplished Lead Engineer at KKR with 10 years of experience. 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

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Masters of Science – Informatics, IIC, University of Delhi, New Delhi, India	2012 – 2014
Bachelor of Science – Electronics, University of Delhi, New Delhi, India	2009 – 2012

## SKILLS

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<b>Programming Languages</b>	Python, C, Javascript
<b>Databases</b>	Oracle, MySQL, NoSQL
<b>Tools and IDE</b>	Pycharm, FastAPI, Flask, Django, Pandas, ReactJS, Git, Terraform, Docker, Jenkins CI/CD
<b>Technologies</b>	AWS, ECS, Lambda, SQS, Elastic Cache, S3, Microservices, SOLID, CAP, ACID, OOPs
<b>Interests</b>	Distributed Systems, System Design, Generative AI and LLM

## WORK EXPERIENCE

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**KKR - Kohlberg Kravis Roberts & Co.** | *Lead Engineer* November 2024 – Present

- *DLM - Derivatives and Liabilities Management*: Developing backend and frontend applications that support the firm's Derivatives business, encompassing trading and bookkeeping activities for all Asset Class and Share Class FX Forwards trades for Private Equity funds.

**Fidelity International** | *Expert Engineer* March 2019 – Oct 2024

- *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.
- Developed cloud native systematic investing product for Fidelity Equity Funds superseding MSCI BPM capabilities which enabled Portfolio Managers to grow their portfolio by multiple folds.
- Responsible for the development and delivery of backend services, front-end integration and designing end to end scalable services.

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

- *Jupiter Satellite Tools Development*: Worked on various tools as a full stack developer.
- Travelled to Maryland, USA twice for requirement gathering and development kick-off 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

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- Spearheaded the outsourcing of Forex hedging operations to Bank of New York for an open-ended fund at KKR, enabling scalable and efficient hedging solutions
- Reduced AWS account cost by design changes having ECS tasks being replaced by Lambdas
- 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 the development and delivery of large software modules supporting Satellite launches at Echostar