Shashwat Dalal

JUNIOR PRINCIPAL MACHINE LEARNING ENGINEER, QUANTUMBLACK
COMPUTING MENG, IMPERIAL COLLEGE LONDON

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WORK EXPERIENCE

QUANTUMBLACK (A MCKINSEY COMPANY) | Junior Principal Machine Learning Engineer
September 2020 – Current | London, United Kingdom

- Tech lead for the **simulation based optimisation** group. Helped guide and shape **10+ client engagements** across various industries (e.g. **energy / automotive / logistics**).
- Lead a team of 5 engineers to build a bidding agent for a **battery energy storage system** operator that was trained using **reinforcement learning**. Our RL bot **generated 34% more revenue** than the benchmark **linear programming** bot. Was responsible for the technical deliverables, project-management, and system architecture.
- Lead the development of a **distributed black-box optimiser** for a **turbine OCM**. Lead to **+0.4% turbine efficiency** (validated by CFD), in **1/20th the time**, and **half the cost** compared to previous process. Optimiser used both **genetic and bayesian methods** and ran on a **GPU cluster** of 20 machines using **Ray**.
- Lead the **data engineering** workstream for a **pharmaceutical clinical-trial site-selection optimization** project. Built a framework that unified the training and inference data-engineering pipeline. The framework reduced the project timeline by one week.

BLOOMBERG | Software Engineering Industrial Placement
April 2019 – September 2019 | London, United Kingdom

- Maintained **BuildStream**, an open source build and integration tool written in **Python**.
- Wrote a plugin to automate the creation of reproducible and layered **Docker** images.
  Report: https://shashwatdalal.github.io/files/placement_report.pdf

BARCLAYS INVESTMENT BANK | Summer Technology Analyst
June 2018 – September 2018 | London, United Kingdom

EDUCATION

IMPERIAL COLLEGE LONDON | Computing MEng. (Graduated 1st Class)
2016 - 2020 | London, United Kingdom

Academic Projects

- **Effect of Non-Identically Distributed Data on Federated Learning for Next-Word Prediction:** Final year project.
  Report: https://shashwatdalal.github.io/files/fl_fyp.pdf
  Slides: https://bit.ly/3bpAU8g
- **Aspect-based Sentiment Analysis with Goldman Sachs:** In a team of six, built an aspect-based sentiment analysis engine for the asset management engineering team. Back-end written in **Python** and database layer used **MySQL**, and **Microsoft Cosmos**.
  Report: https://shashwatdalal.github.io/files/Software_Engineering_Project_Report.pdf
  Code: https://dev.azure.com/vapesoc/362%20Software%20Engineering%20Project/

Extracurricular Activities

- **President of Imperial College London Data Science Society:** Lead a team of 15 to ensure UK's largest student data-science society runs smoothly. Assist with growth strategy, corporate sponsorship, budgeting, union-relations, and talent development. Used **GitHub Actions** and **AWS** to automate (i) website deployments (ii) moving members on to our mailing list. *Code:* https://github.com/shashwatdalal/new_icdss_members

SKILL-SET SUMMARIZED

TECHNICAL SKILLS
Python • Ray • PyTorch • Java • Docker • Kubernetes • Deep Learning • Bayesian Optimisation • Reinforcement Learning • Federated Learning • Linear Programming. • Natural Language Processing • Distributed Systems • GPUs

LANGUAGES
English (Written/Spoken Fluency) • Gujarati (Spoken Fluency) • Japanese (Written/Spoken Conversational) • Spanish (Written/Spoken Conversational) • Hindi (Spoken Conversational)