

# Falak Sethi

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## Education

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### University of Alberta

Jan 2020 - Dec 2024

Bachelors Computer Science and Economics | Certificate in AI & Innovation and Entrepreneurship

## Technical Skills

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- **Languages & Tools:** Python (Pandas, NumPy, matplotlib, seaborn), SQL, R (basic), Microsoft Excel (VLOOKUP, PivotTables, Power Query, Power Pivot, DAX)
- **Data Visualization:** Power BI, Tableau, Looker Studio, Google Data Studio
- **Analytics & Methods:** A/B testing, statistical modeling, data cleaning, dashboard design, reporting automation, REST APIs, Agile, Git
- **Cloud & Databases:** Microsoft Azure (Synapse, Data Studio), AWS (S3, Redshift), Firebase, MongoDB
- **Productivity & Automation:** Microsoft 365 (Excel, PowerPoint, Word, Teams), SharePoint, Power Automate, Jupyter Notebooks, GitHub, Postman
- **Certifications:** Microsoft Certified Data Analyst Associate (in progress), Google Data Analytics Certificate, Lean Six Sigma Green Belt (in progress)
- **Machine Learning:** LLMs, RAG architecture, NLP, DNN Optimization.

## Work Experience

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### AI Researcher

Jan 2024 – Sept 2024

PCL Construction, Edmonton, AB

- Developed a data-driven AI solution to support site engineers in real-time decision-making by integrating operational data, government regulations, and HSE guidelines into a centralized knowledge system.
- Delivered actionable insights and daily performance updates, improving planning accuracy, resource allocation, and regulatory compliance in large-scale construction and process piping projects.
- Fine-tuned the Mixtral-8x7B LLM using Retrieval-Augmented Generation (RAG) to extract and present critical data from unstructured documents and internal datasets.
- Utilized **SQL databases** to query and organize structured site data for integration with AI outputs and dashboard visualizations.
- Created structured outputs and visual dashboards to track safety metrics, KPIs, and compliance indicators for use by planning and safety teams.
- Collaborated with cross-functional teams including project managers, planners, and academic researchers to align AI-driven insights with real-world operations.
- Contributed to documentation and analysis of model-driven process improvements and risk mitigation strategies.

### Manufacturing Analyst

Sept 2023 – May 2024

Viatrix, Etobicoke, ON

- Developed **Power BI dashboards** to track manufacturing efficiency, production volume, and supply chain KPIs across North America and Europe.
- Automated data extraction, transformation, and loading (ETL) processes using **Python (pandas, NumPy)** and **Microsoft Azure Data Factory**, reducing manual reporting time.
- Built and evaluated an **AI-based forecasting model** using **time series analysis** to predict demand and supply trends at a country level.

- Integrated model outputs with **Azure Synapse Analytics** and Power BI for real-time insight generation and business reporting.
- Facilitated weekly **Scrum meetings** and contributed to **bi-weekly sprints** planning sessions to align analytics objectives with global manufacturing and supply chain teams.

**Full-Stack Developer**  
**Whistling Solutions, Edmonton, AB**

**Jan 2022 – Aug 2023**

- Designed and developed *Offify*, a mobile app for employee shift scheduling in Alberta's oil and gas sector using **Flutter** and **Dart**.
- Integrated **Microsoft Azure** and **MongoDB** for secure cloud storage and CRM syncing; digitized legacy workflows.
- Enhanced UX with **Microsoft Clarity** and created real-time dashboards using **Power BI**.
- Automated reporting pipelines using **Python** and **SQL**, reducing decision turnaround time by **40%**.
- Built **Power BI** dashboards to track **customer retention**, **product trends**, and **operational efficiency**.
- Designed reusable UI components and implemented responsive layouts using **Flutter**, improving front-end performance across multiple screen sizes.
- Developed and optimized **RESTful API endpoints** using **Dart** and **Node.js**, ensuring secure and scalable communication between client and server.
- Implemented **Firebase Authentication** and **Firestore** for real-time data syncing and secure user management across the mobile app.

**Software Development Intern**  
**JCB India Ltd, Pune, India**

**May 2021 – Sept 2021**

- Contributed to the development of **JCB LiveLink**, a telematics-based machine tracking platform enabling real-time monitoring of equipment usage, location, performance, and maintenance status for customers and service teams.
- Designed and implemented backend modules using **Java**, **Spring Boot**, and **RESTful APIs** to ensure reliable communication between IoT devices and the application layer.
- Integrated real-time machine data streams via **MQTT protocol** and utilized **JSON** for efficient data serialization and exchange between services.
- Assisted in building interactive dashboards using **JavaScript**, **HTML/CSS**, and internal UI libraries to visualize equipment telemetry and error codes.
- Collaborated with cross-functional teams to support deployment on **AWS Cloud Infrastructure** and ensure scalability, data integrity, and high system uptime.
- Conducted unit and integration testing using **JUnit** and **Postman**, improving API reliability and reducing bug rates in production.

## Certifications

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- **Google Data Analytics Professional Certificate** — Coursera
- **Microsoft Certified: Data Analyst Associate (PL-300)**
- **Tableau Desktop Specialist Certification**
- **IBM Data Analyst Professional Certificate** — Coursera