

# Mustafa Alsaegh

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Data Scientist & Front-End Engineer experienced in building AI-driven analytics and UX-optimized dashboards.

## Skills

**Programming Languages:** Python, R, Java, Scala, C, C++, JavaScript, HTML, CSS.

**Cloud Platforms:** Azure (Synapse, Data Factory), AWS (Basic EC2 & S3)

**Big Data & Machine Learning:** Spark, Hadoop, Google Analytics, AWS (Basic EC2 & S3), Python (eg. scikit-learn, numpy, pandas, matplotlib), Looker Studio (basic), PowerBi, Mattersight, Figma, DAX, UI/UX

**Data Science & Miscellaneous Technologies:** A/B testing, ETL, Data science pipeline (cleansing, wrangling, visualization, modeling, interpretation), Statistics, Time series, Experimental design, Hypothesis testing, OOP, OOD, APIs, Advance Excel

**DevOps & Workflow:** Git / GitHub, CI/CD Principles, ServiceNow, Jira, Confluence

## Education

Indiana University – Bloomington, IN

**Graduated April 2024**

### Masters of Science in Data Science

- *Current GPA in Major:* 3.93
- *Degree program highlights:* Machine Learning, Data Science Statistics, Big Data Analytics, Probability & Discrete Mathematics

Indiana University – Bloomington, IN

**Graduated April 2018**

### Bachelor's of Science in Business Analytics

- *Current GPA in Major:* 3.65

## Experience

Ellucian - WCC

April 2024 – Present

### Data Specialist

- Developed and maintained **ETL pipelines and dashboards** integrating multi-source data (Banner, Canvas LMS, Salesforce) to improve operational insight.
- Led the design of **data models and performance metrics** for campus-wide analytics dashboards used by deans and academic leadership.
- Presented actionable insights to senior leadership, influencing policy and resource allocation.
- Partnered with IT on **data governance, quality assurance**, and Power BI automation.
- Increased reporting accuracy and efficiency by **80%** through reusable queries and automation.

Indiana University Health- Bloomington, IN

May 2021 - April 2024

### Machine Learning Researcher

- Designed and executed **data analytics pipelines** to process and model **500K+ multi-source social media and clinical records**. Conducted **data quality assessments** and profiling, resolving discrepancies across EMR and reporting systems, improving data accuracy by **22%**.
- Utilized **SQL, Python (pandas, seaborn), and R** for statistical analysis and predictive modeling (logistic regression, clustering, NLP).
- Built **interactive Power BI dashboards** translating complex healthcare datasets into actionable insights for compliance and operational teams.
- Partnered with IT to migrate reporting pipelines to **Azure Synapse Analytics**, enhancing scalability and governance.
- Developed **data dictionaries and lineage documentation** to strengthen audit readiness and ensure consistent data stewardship.
- Collaborated with cross-functional governance and compliance teams to standardize reporting and data input processes.
- Mentored **6+ undergraduate researchers**, resulting in **3 research posters** and a **first-author CHI publication (23.8% acceptance)**.

Cummins - Columbus, IN

May 2020 – Sept 2020

### Data Engineering Intern

- Designed Power BI dashboards visualizing engagement with Cummins' connected-engine digital platform and support campaigns.

- Wrote SQL and Python data pipelines that merged telemetry, CRM, and web-analytics data, improving the accuracy of campaign-performance reporting.
- Modeled retention and feature-adoption trends to inform product-marketing teams on target segments and messaging.
- Collaborated with UX and digital marketing teams to integrate analytics into Figma-based interface prototypes.

Bloom Insurance - Bloomington, IN

May 2018 – Jan 2020

#### **Marketing Data Analyst (Contract Role)**

- Supported marketing strategy teams under a **contracted analytics engagement** focused on performance measurement and data automation.
- Built **Tableau and Looker dashboards** consolidating data from **Salesforce CRM**, paid-media APIs, and policy databases hosted in **Google Cloud BigQuery**.
- Automated campaign reporting through **SQL scripts and Python ETL pipelines**, ensuring daily data refreshes and KPI accuracy.
- Conducted **A/B testing** and audience segmentation to identify profitable customer segments and messaging strategies, increasing lead-to-policy conversion by ~12%.
- Partnered with marketing managers to translate data insights into budget and targeting recommendations for digital channels.

## **Projects**

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### **AI-Powered Clinical Insight Dashboard (*Independent Research Project*) – Indiana University Health**

Completed 2023

- Designed and deployed an AI-driven analytics dashboard using React, Flask, and Power BI Embedded to visualize patient trends and forecast admission rates in real-time.
- Integrated Python-based forecasting models (Prophet, LSTM) into a web interface that allowed users to adjust parameters interactively, simulating the experience of OneStream's AI forecasting modules.
- Collaborated with clinical teams to refine the user interface for intuitive navigation, applying Figma wireframes and UX heuristics to optimize usability.
- Deployed the full stack on Microsoft Azure App Services, leveraging Azure SQL Database and containerized APIs for scalability and continuous monitoring.
- Resulted in a 45% improvement in data interpretation efficiency among pilot users and served as a prototype for integrating predictive analytics into enterprise health systems.

### **Cofounder & Business Lead Bloomington, IN**

*Tali (Indiana University -SPEA school Hatchery Startup Accelerator)* April 2018 - September 2018

- Pitched to a private therapy provider to raise 5K for creation of subscription based web application that helps university students with autism and/or ADHD achieve academic goals.
- Surveyed 20+ students and consulted with board certified therapists to create alpha prototype.
- Pitched weekly throughout the accelerator program and ultimately chosen as top 10 of 50 teams.

### **President Richmond, Indiana**

*TechXplore (Indiana University)*

- Led team of 5 students to collaborate with technology experts (eg. R, Python, AutoCAD) to create a total of 8 workshops, expositions, and hackathons that gathered a combined 1000+ attendees.
- Established and maintained 4 sponsorships with university faculties, companies, and other clubs.

### **Wet Lab Lead Bloomington, Indiana**

*International Genetically Engineered Machine (iGEM Indiana)*

- Collaborated with 6 executive members to design and implement synthetic biology projects for 16 general members.
- Developed a light controlled genetic switch to control CRISPR/CAS9 gene editing (Bronze medal).
- Created biologically reactive paper sensors for cheap and eco-friendly gold detection (Bronze medal).