

# M. ATIF SIDDIQUI

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## EDUCATION & SKILLS

**University of Kansas** (*University Honors Program*)

**Lawrence, Kansas**

Bachelor of Science in Computer Science

August 2018 - May 2022

Master of Science in Computer Science

August 2022 - May 2024

**Teaching Experience:** Graduate Teaching Assistant for Programming in Python

**Programming Languages:** Python, JavaScript, HTML, CSS, SQL, React.js, Meteor.js, MongoDB

**Software & API:** Hudl Insight & Sportscube, Wyscout Platform & API, Statsbomb API, Genius API, Skillcorner, Tableau

**Leadership and Awards:** Madison and Lila Self Memorial Scholarship, KU International Excellence Award Scholar. Vice President @ Superintelligence Applications, Campus Relation Chair @ Theta Tau Fraternity

**Coaching License/certifications:** US 11v11 Grassroot Coaching License, English FA Introduction to Talent Identification in Football, PFSA Introduction into Football Scouting

**Publications:** Bridging the Gap: Using Requirements Engineering to Build Effective Sports Data Software

## WORK EXPERIENCES

**Just Play Sports Solutions** - *A software company helping coaches teach today's athletes*

**Kansas City, Missouri**

Full Stack Developer

January 2023-Present

- Engineered comprehensive data extraction pipelines, integrating soccer-specific data from APIs and various external sources to streamline ingestion into the Just Play platform, ensuring high-quality, actionable data for analysis.
- Designed and implemented end-to-end ELT pipelines, transforming raw data into structured formats suitable for reporting, optimizing performance for real-time soccer data workflows.
- Developed and maintained NoSQL databases to store and organize high volumes of soccer-related statistics, match events, and player performance data, with a focus on scalability, data integrity, and rapid retrieval.
- Built scalable, modular components for the Just Play platform, leveraging modern software engineering practices such as agile development, unit testing, version control (Git), and code reviews to ensure maintainability and high performance.

**University of Kansas Women Soccer**

**Lawrence, Kansas**

Data Analyst

May 2022-January 2023

- Built automated data pipelines for retrieving, cleaning, and generating pre-match and post-match reports, streamlining the reporting process, and reducing manual work for in-depth opponent and team performance analysis.
- Conducted comprehensive soccer data analyses, uncovering key trends like goal kick performance, player development, and team metrics, generating actionable insights to improve game strategies and decision-making.
- Developed intuitive visualizations using Tableau, Python, and Hudl, helping coaches and players easily understand complex soccer data, making the information accessible and actionable for tactical preparations and post-match reviews.
- Collaborated closely with the coaching staff to tailor data insights to specific tactical and performance needs, providing customized reports and visual analysis to assist in game preparation, strategy formulation, and player development.

**VX-Sports** - *Provides GPS devices, data, and visual tools to sport teams*

**Remote**

Freelance Software Developer

May 2022 – August 2022

- Developed an interactive GPS data visualization dashboard using React.js, enhancing user interaction by providing real-time, customizable views of athlete performance data such as speed, distance covered, and positional heatmaps, making the data more accessible and actionable for coaches and performance analysts.
- Designed and implemented RESTful APIs to facilitate efficient data retrieval from .NET-based GPS and performance data files, streamlining the backend-to-frontend data flow, ensuring reliable and fast access to athlete metrics across various user interfaces.
- Engineered a robust data pipeline that integrated multiple data streams such as geolocation, heart rate, and activity load metrics, providing a holistic and comprehensive view of athlete performance. This pipeline allowed for seamless data processing, aggregation, and analysis, driving insights into player workload and recovery.

**Nashville Soccer Club | Major League Soccer**

**Remote**

Technical Analyst Intern

January 2022 – May 2022

- Built and deployed machine learning models to evaluate MLS teams and squads, focusing on roster valuations, player performance metrics, and team dynamics, providing data-driven insights for strategic decisions.
- Worked on data engineering projects to extract situational tracking and event data, identifying key moments such as line-breaking passes and one pass-and-go situations, enabling deeper tactical analysis.
- Refined machine learning and data engineering skills by developing innovative pitch control models to analyze team dynamics, possession strategies, and ball control effectiveness, contributing to high-impact scouting projects and strategic decision-making.

- Developed and optimized key features for RiskIQ's External Threat Services, contributing to both frontend and backend functionality, enhancing threat detection capabilities.
- Enhanced proficiency in Java, SQL, PHP, and Spring Boot, working on scalable microservices and database integrations, while utilizing XML for data configuration and manipulation.
- Worked with industry-standard tools such as Apache Ant, Jira, Jenkins, Confluence, and Bitbucket to manage code builds, automate deployments, and facilitate continuous integration (CI/CD) pipelines.
- Collaborated cross-functionally with engineering teams and senior leadership, participating in weekly syncs with the Chief Operating Officers, honing technical communication and agile development skills.

## **RELEVANT PROJECTS**

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### **PassNet Score | Graphical Neural Network**

- Analyzed 1,000+ passing networks to understand their value and applications in soccer, performing a deep dive into network structure and impact on match outcomes.
- Developed PassNet Score, a novel metric using Graph Neural Networks (GNNs) to assign value to passing networks based on match performance and outcomes.
- Utilized match event data to construct comprehensive passing network graphs, incorporating metrics like pass accuracy, player roles, expected pass values, and expected threat contributions.
- Designed two distinct models: a basic GNN to analyze games holistically, and a second model that divided games into 15-minute intervals, leveraging a GNN with LSTM layers to capture player interaction patterns over time and predict match outcomes based on team cohesion and ball progression.

### **Understand Soccer Through Data Science**

- Leveraged Python to preprocess and analyze StatsBomb open event data, creating detailed visual representations of scoring opportunities and passing patterns.
- Applied Logistic Regression to quantify Expected Goals (XG) and Expected Pass (XPass) values, enhancing the predictive accuracy of goal-scoring opportunities and pass success in soccer analytics.
- Developed data-driven approaches to provide deeper insights into match strategies and player decision-making.

### **Soccer Scouting Using Machine Learning**

- Applied Machine Learning techniques to evaluate player physical and technical attributes, correlating them with real scout ratings to enhance player evaluation accuracy.
- Built a Neural Network model to predict scout ratings based on player features such as speed, agility, and passing ability, aiding in talent identification processes.
- Employed data mining strategies to identify underrated players, providing a competitive edge in player recruitment and improving overall squad development strategies.

### **Bridging the Gap: Using Requirements Engineering to Build Effective Sports Data Software**

- Worked closely with KU women's soccer coaches, leveraging peer-reviewed methodologies in software requirements engineering to gather and define platform needs.
- Developed a scalable and adaptable sports analytics platform, designed to evolve alongside changing requirements and team needs.
- Integrated data gathering, APIs, data engineering, analysis, and predictive modeling capabilities, providing a complete solution for soccer departments.

### **MLS Roster Evaluation | A project in python web scrapping and SQL**

- Developed a Python-based web scraping solution to extract detailed roster data from TransferMarkt, capturing key player statistics and team attributes for deeper analysis.
- Designed and implemented a structured SQL database, ensuring seamless data storage and optimized it for efficient querying and analysis.
- Leveraged advanced SQL queries to perform in-depth analysis, revealing insights into how MLS teams build and manage their rosters, navigating constraints like salary caps and team strategies.

## **PROFESSIONAL REFERENCES**

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**Travis Smith:** *Assistant Coach at Utah Soccer (previously at KUWS)*  
Phone Number: +12103734366  
Email: tsmith@hintsman.Utah.edu

**James Hockens:** *Head of Data at Washington Sprints*  
Email: jhocken@washspirit.com

**Caleb Shreve:** *Assistant General Manager at DC United (Previously at Nashville Soccer Club)*  
Email: cshreve@dcunited.com

**Zijun Yao:** *Assistant Professor of Computer Science at University of Kansas*  
Email: zyao@ku.edu