MOHAMMAD KAIF

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EDUCATION :

The Pennsylvania State University, University Park, PA   **May 2023**
Bachelor of Science in Computer Science, Minor in Mathematics
- CS: Database Systems, Distributed Systems, Search Engines, Parallel DS & Algorithms, Software Design
- ML: Deep Learning Systems (PhD), Advanced Deep Learning (PhD), ML with Large Datasets (MS), NLP
- Math: Modern Regression, Intro to Math Finance, Probability & Stats, Multivariate Calculus, Linear Algebra

TECHNICAL SKILLS :

Languages:	Java,C/C++, Python, SQL, HTML, CSS, JavaScript, SML/OCaml
Softwares:	Spark, Tensorflow, Hive, ELK, Docker, MATLAB, Tableau, SharePoint, Netbeans, Node.js, React, Apache

WORK EXPERIENCE :

Qualcomm   **Present**
Embedded SWE Intern   **San Diego, CA**
- Developed python-based register compute tool with GUI across 5G-NR wireless transceivers, RF, analog, and digital cores.
- Implemented end-to-end gain calibration, developed algorithms for wide-band RSS and RSB measurement in MATLAB, C/C++.
- Delivered a time-critical tool for silicon-on-dock bring up and characterization of flagship RFIC/ mixed-signal 5G-NR component.
- Deployed API/wrappers for instrument control on benches, automated data collection, applied signal and data processing.
- Executed baseband RX ADC DNL-INL characterization, FFT, Cap Calibration and repeatability, PLL stability, etc.

UniRely College Counseling   **2019-2021**
Student Mentor
- Experienced with guiding students in their competitive college applications.
- Evaluated sessions, essay review, and application structuring.

PROJECTS :

System Programming   **2022**
- Worked on a flat hierarchy file system, using operations such as read, write, update etc.
- Implemented LRU cache concept to improve the file system efficiency.

Data Warehouse Design for Business   **2021**
- Developed a system to store, retrieve, structure, modify and analyze data from different sources.
- Created a central repository, consists of such a data warehouse, which can manage inventory, logistics, and optimum profits.
- Developed using Apache Hive, Cpp, and Java.

Web Application (PlasmaLink**)**   **2021**
- Developed and Deployed a Django WebApp Devoted towards COVID-19 Emergency Services.
- Implemented API user Authentications, Maps, and reCAPTCHA.
- Used Django, Python, HTML, CSS, and Java.

Classroom Scheduler   **2020**
- Developed an application using JFrame and Database Management.
- Helped the faculty to make modifications to a reservation such as booking, canceling, and checking the status of reservation.

RESEARCH :

Combo Trade Resolver:
- Designing and creating a python service that consumes exchange combo trade definitions, and resolves them in a centralized TimescaleDB database for post trade analysis.
- Service will run in the production cluster, reducing the memory footprint of a key service for an estimated savings of $30,000/yr whenever implemented on a trading combo system.

Profit and Loss Analysis:
- Enriching firm-wide post-trade profit and loss analysis with new algorithms, and increased fidelity.
- Analyzing D1 trading and options hedges with Jupyter Notebooks and Datagrip, and writing production code in Python.
- Thoroughly documenting analysis for further investigation by other teams.

CERTIFICATIONS :

Stanford University, Machine Learning Certification	**2022**
HarvardX Computer Science for Business Professionals	**2021**
DevOps Using Terraform Certification	**2021**
HarvardX Introduction to Programming with C++	**2020**

AWARDS AND HONORS :

Scored International Rank (15) in the **International Mathematics Olympiad (IMO).**
Achieved 4th Position in the **State Level Tennis Championship.**