MOHAMMAD KAIF

mohdkaif5695@gmail.com|(814) 404-2979|mohammadkaif.com|https://www.linkedin.com/in/kaifmohammad/

WORK EXPERIENCE :

Google   **San Francisco, CA**
Software Engineer Intern   *Present*
- ➢ Working on the Youtube Datawarehouse Infrastructure team to improve the testing and issue detection infrastructure.
- ➢ Detect permission, issues and violations of practices in an automated service to prevent outages within YouTube.
- ➢ Developing a tool for ensuring documentation freshness in Google's C++ codebase.
- ➢ The project improves velocity reduction and decreases ramp-up time for Googlers.

Qualcomm   **San Diego, CA**
Embedded Software Engineer Intern   *May 2022 - August 2022*
- ➢ 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.

Bright Vision Institute - Lockheed Martin   **Remote**
Software Developer Intern   *May 2020 - August 2020*
- ➢ Modeled Ship Cruise Plan Activation Window in IDATA for Sikorsky's Black Hawk Helicopter.
- ➢ Designed and migrated custom EXCEL metrics to Tableau.
- ➢ Created trade studies for Drone Racing League's Intern Quadcopter Design Project.
- ➢ Used ReactJS, CSS, C++, Java, JavaScript, and HTML to implement the feature.

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, consisting of such a data warehouse, which can manage inventory, logistics, and optimum profits.
- ➢ Developed using Apache Hive, Cpp, 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: **University of Pennsylvania**
- ➢ 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: **University of Pennsylvania**
- ➢ 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.

EDUCATION :

The Pennsylvania State University, University Park, PA   *May 2023*
Bachelor of Science in Computer Science, Specialization in Mathematics   *GPA 3.78*
- ➢ CS: Database Systems, Distributed Systems, Search Engines, Parallel DS & Algorithms, Software Design
- ➢ ML: Deep Learning System,, Advanced Deep Learning, ML with Large Datasets, NLP
- ➢ Math: Modern Regression, Intro to Math Finance, Probability & Stats, Multivariate Calculus, Linear Algebra

Awards and Honors:
- ➢ Secured International Rank (15th) in the **International Mathematics Olympiad (IMO)**
- ➢ Secured Rank (39th) in the **National Science Olympiad (NSO)**

TECHNICAL SKILLS :

Languages: C/C++, Java, Python|HTML5, CSS, JavaScript, Bootstrap|MATLAB, TensorFlow, PyTorch|SML/OCaml
Skills: Machine Learning, Algorithm Design, Backend Infrastructure Design, Mathematical Modeling

CO-CURRiCULAR ACTIVITIES :

Jane Street Infocus Program   **2022**
Digital Stock Trading Club (President)   **2021**