Muhammad Kashif

Portfolio Website: mk61395.github.io/portfolio-website/   Email: m.kashi613@gmail.com
GitHub: github.com/MK61395   Mobile: (0315) 5301695
LinkedIn: linkedin.com/in/muhammad-kashif-542761168/   Islamabad

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EDUCATION

National University of Computer and Emerging Sciences   **Sept 2021-July 2025**
Bachelor of Science – Computer Science   *Islamabad*

Courses: Programming Fundamentals, Object Oriented Programming, Data Structures, Artificial Intelligence, Software Engineering, DevOps, Web Programming, Database Systems, Design and Analysis of Algorithms, Computer Networks, Operating Systems, Parallel and Distributed Computing, Software Design and Architecture, Computer Organization and Assembly Language

SKILLS SUMMARY

Languages: C, C++, Python, Java, SQL, Asm (x86), HTML, CSS, JavaScript
Frameworks: Flask, Django, Streamlit, Bootstrap, Tailwind, NumPy, SciPy, Pandas, Matplotlib, ASP.NET
Tools: Git, gdb, Google Test, Jupyter, Eclipse, VS Code, Visual Studio, MS SQL Server, MongoDB
Platforms: Linux, Windows, Google Collab, Microsoft Azure, AWS
Soft Skills: Communication, Time Management, Adaptability, Problem Solving, Team Player, Creativity

WORK EXPERIENCE

Mobile Wallet Application Developer   **Aug 2024 - Present**
Circuit Stream   *Islamabad.*

- Collaborate with a team of 4 to design and develop a secure and user-friendly mobile wallet application.
- Implement payment processing systems and integrate with various financial APIs for seamless transactions.
- Utilize cross-platform development frameworks like React Native to ensure compatibility across iOS and Android devices.
- Develop and enforce security protocols to protect sensitive user data and prevent fraudulent activities.
- Coordinate with UX/UI designers to create intuitive interfaces, enhancing user engagement and satisfaction.

Generative AI & Full Stack Developer Intern   **May 2024 – Aug 2024**
Knowledge Discovery and Data Science Lab   *Islamabad.*

- Collaborated with cross-functional teams to gather requirements and translate them into functional web features.
- Integrated generative AI model, utilizing both local models (llama 3.1) and APIs (Gemini Flash 1.5).
- Designed user interfaces for PlotPal and Mulazmat, improving usability scores by 20%.
- Developed and maintained frontend and backend using Flask, reducing API response time by 35%.
- Conducted testing and debugging to ensure functional web applications, reducing critical bugs by 90%.

CERTIFICATIONS

Front End Development & Responsive Web Design   **June 2023 – July 2023**
freeCodeCamp   *Remote*

- Completed an intensive 300 hour front-end web development course on freeCodeCamp, gaining proficiency in HTML and CSS. Learned to create responsive and visually appealing web interfaces through hands-on projects and practical exercises.

Google's UX Design Course   **June 2023 – Aug 2023**
Coursera   *Remote*

- Successfully completed a comprehensive 7-module UX design course offered by Google on Coursera. Gained in-depth knowledge of user-centered design principles and methodologies, including wireframing, prototyping,

and conducting user research and applied learned skills to real-world projects.

- Introduction to Cloud Computing
- Search Engine Optimization

- Build a website using WordPress
- Develop a company website using Wix

PROJECTS

- **PlotPal – A visualization Chatbot (Flask, SQLAlchemy, HTML, CSS, Bootstrap, Gemini API):**
  - ➢ Designed the UI/UX and developed 8 new features for a visualization chatbot web application.
  - ➢ Implemented frontend using HTML, CSS, and Bootstrap, ensuring a responsive and user-friendly interface.
  - ➢ Collaborated with backend developers to integrate front-end components with Flask for seamless functionality, reducing page load time by more than 15%.
  - ➢ Enhanced user experience by implementing a robust chat interface that can generate visualizations such as bar graphs, plots, and display data frames using the Gemini API key. <**Live Link**>

- **Timetable Scheduler for FAST University using Genetic Algorithm (Python, Jupyter Notebook):**
  - ➢ Developed a sophisticated timetable scheduler for FAST University using a genetic algorithm in Python.
  - ➢ Handled complexities of scheduling for multiple departments, sections, subjects, faculty members, classrooms, and labs, leading to a 95% reduce in scheduling conflicts.
  - ➢ Generated weekly timetables adhering to various hard and soft constraints, covering over 100 classes.
  - ➢ Employed binary encoding for chromosomes and a fitness function that penalized scheduling conflicts and clashes to ensure efficient and conflict-free schedules.

- **CampusForge – A Society Management System (SQL and C#):**
  - ➢ Designed and developed a comprehensive Society Management System using C# in Visual Studio and Microsoft SQL Server to manage the database, supporting over 120 different societies.
  - ➢ Featured distinct modules for various user roles, including Admin, Head, Member, and Society Mentor.
  - ➢ Collaborated in a team of three, adhering to Software Engineering principles throughout development and documentation, and streamlining society operations by over 30%.
  - ➢ Executed the implementation of basic CRUD operations for the society's database system, resulting in enhanced data retrieval speed and improved user satisfaction across 200+ active members.

- **Sudoku Solver (Python):**
  - ➢ Developed a Sudoku solver using search algorithms and heuristics able to solve puzzles 40% faster.
  - ➢ Tackled the classic 9-by-9 Sudoku puzzle, aiming to fill empty cells with digits 1 through 9 in rows, columns, and 3-by-3 boxes.
  - ➢ Implemented Backtracking Search with MRV, Degree Heuristic, Least Constraining Value, and AC3 algorithm for domain reduction.

- **PetPal (JavaFX, Java, and MySQL):**
  - ➢ Implemented PetPal, a 3-layered pet management system developed using JavaFX, Java, and MySQL.
  - ➢ Aimed to revolutionize pet adoption, tracking, and care services while ensuring a user-friendly interface.
  - ➢ Showcased skills in JavaFX for creating intuitive user interfaces, Java for backend logic, and MySQL for database management of over 500 pets and owners.

- **FAST Social Network (C++):**
  - ➢ Modelled and analysed the social structure within FAST-NUCES university using graph algorithms, representing relationships among 1000+ students and faculty members etc.
  - ➢ Key features included graph representation for relationships, communication pattern analysis, collaboration network detection, influence analysis, community detection and event attendance analysis.