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Education

Institute of Space Technology

Bs in Computer Science

Islamabad, PK

Nov 2021 - Aug 2025

- Vice president at AICP-IST
- Treasurer of IST Media Club
- **CGPA:** 3.3
- **Courses:** Artificial Intelligence, Computer Vision, Computer Networking, Mobile App Development, Design and Algorithm analysis, Database systems, Theory of Automata, Data Structures and Algorithms, Computer Organization and Assembly language, Object Oriented Programming

Work Experience

ATH Real Estate

Remote, DE

Web developer (Freelance - Contract)

Sept 2023 - Oct 2023

- Designed, Developed and deployed web app for listing properties for sale under a record time of 1 week in **NextJS** backed by **TailwindCSS** and **JSON**.
- Implemented **server side rendering** for better performance and Search Engine Optimization while simultaneously testing and developing the app to support multiple devices .
- Worked under a extreme tight time limit while keeping up with the client's requirements was a challenging but rewarding experience that enhanced my skills and knowledge.
- **Technical Skills:** NextJS, Javascript, Tailwind CSS, JSON, UI/UX Designing, Git.
- **Soft Skills:** Time Management, Communication, Working Under Pressure, Client Dealing.

Institute of Space Technology

Islamabad, PK

Research Intern

July 2023 - Sept 2023

- **Led a team of 3 research interns** in conducting a comprehensive literature review on entrepreneurial intention and the factors affecting it, covering over **50 research articles and industry reports**.
- Designed and administered a survey to gather data from a sample of 200 university students, achieving a 92% response rate.
- Worked under a extreme tight time limit while keeping up with the client's requirements was a challenging but rewarding experience that enhanced my skills and knowledge.
- **Technical Skills:** Information Gathering, Researching, Survey
- **Soft Skills:** Time Management, Communication.

Friscon

Remote, US

Mobile App developer (Remote - Contract)

June 2023 - Jan 2024

- Developed and deployed cross-platform mobile e-commerce app in **React Native** with **Firebase** back end and **Stripe** payments under tight deadline.
- Implemented **user authentication** , payments, order tracking; while thoroughly testing on devices using Expo tools to ensure compatibility and performance.
- Utilized **Agile methodology** to adapt to changing requirements in dynamic e-commerce landscape.
- **Technical Skills:** React Native, Javascript, Firebase, Stripe, UI/UX Designing, Git.
- **Soft Skills:** Time Management, Communication, Client dealing.

BuildMate

Islamabad, PK

UI UX Designer (Contract)

May 2023 - December 2023

- Worked as a Ui Ux designer for BuildMate to create a UI design for their website.
- Created an interactive and eye-catching web design
- Worked with a team member
- **Technical Skills:** UI/UX Designing, Figma
- **Soft Skills:** Time Management, Communication, Team work.

Projects

Image Description Gen AI

Python, PyTorch

January 2024 - June 2024

- Develop an AI model for image description using a dataset of **20 million** images.
- Designed and optimized model architectures including ResNet, LSTM, and Transformer for detailed caption generation.
- Tested 20 versions of the model, achieving a maximum **ROUGE score of 40%**.

OCR for handwritten text

Python, PyTorch

January 2024 - June 2024

- Developed a custom OCR system with an **accuracy of 92%** on a dataset of **800,000 images**.
- Performed comprehensive data augmentation and sampling to enhance model robustness and accuracy.
- implemented advanced preprocessing techniques such as **skew correction**, warping removal, binarization, and a **multi-step text extraction** process for lines, words, and characters.

Crypto / Stocks Prediction AI

Python, Tensorflow

November 2023 - January 2024

- Developed and optimized a crypto coin and stock price predictor, with **accuracy of 88%** .
- Created a **LSTM model** to predict value based on previous data and time
- Made the model to run in real-time without major delay to predict

Ecommerce Website

Go Lang, Nextjs, MongoDB

December 2023 - March 2024

- Led a team of 3 in developing a **full-stack E-Commerce platform** with integrated auction, wholesale, and marketplace functionalities using MongoDB, Go, and NextJS
- Implemented **server-side rendering** with NextJS, resulting in a **less than 600ms page load time**.
- Incorporated security measures, including **DDoS prevention** techniques and **server-side session management**, to ensure data integrity and protect against potential threats.

CashFlow

ReactNative, NextJS and Python

March 2023 – May 2023

- **Led a team of 2** to build a secure web and mobile finance app using NextJS and React Native, with a focus on learning security and app development.
- Implemented a secured Python back end and utilized a JSON database as an API, ensuring **sensitive data integrity** and **protection**.
- Enhanced back end security by utilizing **strong password strength** and **SHA256 Hashing**, reducing potential vulnerabilities.

Diabetic Retinopathy Detection AI

Python, TensorFlow

April 2023

- Developed an AI model for detecting diabetic retinopathy using Python and TensorFlow, achieving an **accuracy of 80%**.
- Created a deep neural network model incorporating **Convolutional Neural Networks** and Residual Blocks, with **4 million parameters**.
- Trained the model over a dataset of **3.5k images**, enabling accurate identification of diabetic retinopathy.

Hashing Algorithm

Python

Oct 2023

- Implemented custom hashing algorithm in Python to learn fundamentals of **hash functions** and strengthen **cryptography skills**.
- Redesigned the algorithm to enhance the **avalanche effect** over v1, diffusing and randomizing input data to produce unique hash outputs;
- Gained valuable experience in **pigeonhole principle**, bit wise operations, **Galois field math**, algorithm design, and other core computer science concepts.

Encryption Algorithm

Python

Oct 2023

- Implemented **custom 128 Bits to 128 Bits encryption algorithm** in Python to learn fundamentals of encryption and strengthen cryptography skills.
- Designed an algorithm using a **AES** style matrix transformation, **lookup tables**, which helped in improvement of **Algorithm Designing and Optimization**.
- Improved the algorithm, incorporating **Galois field Math** for enhanced diffusion and confusion, resulting in faster computations, while keeping motivated

VWatch

Flutter, NextJS ,MongoDB and Python

Aug 2022 - Feb 2023

- **Led a 6-member team** in designing and developing a secure mobile and web application using Flutter and NextJS, and learned about **OOP**
- Utilized a Python-based secure back end with a JSON database, creating an API and hosted on **Google Cloud**, ensuring seamless **performance** and **scalability**.
- Improved performance by 60% through optimizing data transfer using efficient algorithms and data structures for large data and using **MongoDB**.

AI Kitab

Flutter

Dec 2022 – ongoing

- Developed a Quran mobile application using Flutter. In addition to the development work, I also designed the UI/UX of the mobile app.
- Improved offline functionality of the app to optimize its usability. Additionally, I was able to enhance the app's loading time by 70%
- **Technical Skills:** Flutter mobile development, App optimization
- **Soft Skills:** Large Solo projects

Skills

Programming	Python (TensorFlow, Flask, Django), Go lang, C/C++, C Sharp, Java, Flutter, JavaScript, SQL
Miscellaneous	Linux, ReactJs, Firebase, AWS, Google Cloud, MongoDB, Unity, Unreal Engine, Godot Engine
Soft Skills	Time Management, Teamwork, Problem-solving, Engaging Presentation, Public speaking

Certifications

2024	IBM , <u>Computer Vision and Image Processing</u>
2024	Google , <u>Connect and Protect: Networks and Network Security</u>
2024	Google , <u>Foundation of Cyber Security</u>
2023	FreeCodeCamp , Information Security
2023	DeepLearningAI , <u>Supervised Machine Learning Regression and Classification</u>
2023	Google , <u>Crash Course on Python</u>

Languages

English	Professional proficiency
Urdu	Native proficiency