SYED TAHA
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PROFESSIONAL SUMMARY

CS student specializing in AI and computer vision, with hands-on experience building GANs and custom CNNs in Python/C++, low-level RISC-V vector-extension inference, and real-time C++ physics simulations; strong background in algorithm design, performance optimization, and open-source collaboration.

TECHNICAL SKILLS

Languages	C/C++, RISC-V, Python, Bash, JavaScript
Tools & Libraries	TensorFlow, Jupyter Notebooks, React, Next.js, MUI, Firebase, OpenAI API, Pinecone, Vercel.

EXPRERIENCE

Teaching Assistant August 2024 - Present
Institute of Business Administration, Karachi *On-site*

Executive Council – Program Design September 2024 - Present
Data Science Society, IBA Karachi *Hybrid*

Software Engineering Fellow July 2024 - September 2024
Headstarter AI *Remote*

- Delivered 5 AI-powered web apps in 5 weeks using React/Next.js, Firebase, Clerk, and Vercel under weekly agile sprints with CI/CD—scaled each to 200+ users and launched an IBA teacher-review portal with 300 waitlist sign-ups.
- Co-developed a Next.js customer-support agent with a custom OpenAI+Pinecone RAG pipeline and a GPT-4o–powered flashcard SaaS; participated in weekly innovation sessions with engineers from Google, Y Combinator, Stanford, Amazon, and top startups.

PROJECTS

- **Chess Engine:** Developed a fully featured chess engine with AI opponent, custom evaluation functions, and search algorithms; established proficiency in advanced C++, AI algorithms, testing, debugging, shell scripting, Git/GitHub workflows, Python-based analysis, and documentation.
  - Technologies: C++, Python, Shell scripting, Git/GitHub.
- **GAN Template:** Implemented a foundational generative adversarial network architecture from scratch to explore GAN training dynamics and stability.
  - Technologies: Python, Jupyter, TensorFlow, Keras, NumPy, Matplotlib, Git/GitHub .
- **RISC-V CNN Forward Pass:** Implemented CNN forward pass in RISC-V vector-extended assembly with Python verification and shell automation; prototyping a Python GUI for handwritten-digit inference.
  - Technologies: RISC-V assembly, Python, Shell scripting, C/C++.
- **Physics Engine**: Engineered a real-time C++ physics simulation engine covering rigid body dynamics, collision detection, and an orbital mechanics module for simulating celestial motion.
  - Technologies: C++

EDUCATION

Bachelor of Science, Computer Science, Institute of Business Administration (IBA), Karachi, Sindh
Expected May 2027