Muhammad Tallal Eatazaz

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About Me

AI/ML enthusiast with hands-on experience building and deploying full-stack, data-driven applications. Proven ability to improve model performance, automate complex tasks, and deliver usable solutions. Strong foundation in NLP, computer vision, and modern web technologies. Passionate about building real-world systems that scale and solve meaningful problems.

Experience

Cloud Application Development Intern   June 2023 – Aug 2023
Systems Limited, Islamabad

- Designed and deployed 3 cloud-based dashboards using React.js and MS SQL Server, enabling 100+ users to visualize sales and HR analytics.
- Reduced API response time by 30% by implementing optimized queries and client-side caching.
- Collaborated in a 5-member Agile team, delivering weekly sprints with 95% success rate on deliverables.

Cybersecurity Intern   June 2022 – Aug 2022
Datamatics Consulting, Islamabad

- Automated 5+ encryption scripts using Python (`cryptography`) to secure sensitive company files with AES/RSA protocols.
- Assisted in scanning 12+ web applications for vulnerabilities; documented 15+ remediation steps.
- Helped reduce security misconfigurations by 40% through system audits and reporting.

Teaching Assistant   Fall 2023 – Spring 2024
FAST NUCES, Islamabad

- Conducted weekly labs and mentoring sessions for 50+ students in Computer Organization, ICT, and DBMS.
- Reduced students' debugging time by 25% via structured guidance on C++, SQL, and MIPS assembly.
- Graded 100+ lab assignments and projects with feedback that improved class average by 12%.

Projects

InfoMorph – Multilingual News Summarizer

- Developed an NLP-based web app that summarizes 100+ real-time news articles in Urdu, and English using the Pegasus Transformer model.
- Achieved 65% average summary compression while maintaining over 85% content integrity.
- Implemented scalable backend using FastAPI and MongoDB with async scraping; supported 50+ concurrent users in testing.
- Frontend built with Next.js; integrated Eleven Labs for multilingual speech synthesis with First Order Motion Model used for AI News Anchor.

CNN Image Classifier

- Trained a 6-layer CNN using Keras on 25,000 labeled images from Kaggle's Dogs vs Cats dataset; reached 96% accuracy on validation set.
- Improved generalization by applying data augmentation (rotation, flipping) and dropout (rate = 0.5), reducing overfitting by 18%.
- Exported trained model for deployment in other environments; improved inference speed by 20% on local devices.

Urdu-to-English Neural Translator

- Created a neural machine translation system using PyTorch with an LSTM-based Seq2Seq model and Bahdanau Attention; trained on 100,000+ sentence pairs.
- Boosted BLEU-4 score by 14 points through beam search (width = 3), token masking, and teacher forcing.
- Optimized preprocessing pipeline with padding and custom tokenization, cutting training time by 22%.
- Deployed as a Streamlit app with language switcher and live inference for 100+ test users.

Skills

Programming: Python, C++, JavaScript, Java, SQL, Bash, x86 Assembly
Machine Learning: TensorFlow, PyTorch, Scikit-learn, OpenCV, ONNX, NumPy, Matplotlib
NLP: Transformers, Pegasus, LSTM, Seq2Seq, Tokenization, Attention, BLEU, BERT, ROUGE
Tools/Platforms: Git, Docker, Jupyter, VS Code, TorchScript, FastAPI, MongoDB, MySQL, Linux
Web Development: React.js, Next.js, Node.js, Express.js, REST APIs, HTML5, CSS3