Ali Shahryar Khokhar

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Summary

MS CS student with a robust foundation in distributed computing. Proficient in C++, Python, and machine learning, exhibiting strong problem-solving skills and a passion for technology. Adept at independent work and collaboration

Education

University of Southern California — Los Angeles, CA
Master of Science in Computer Science, CGPA: 3.65/4.0 — Expected May 2025

Lahore University of Management Sciences — Lahore, Pakistan
Bachelor of Science in Physics, Computer Science Minor, CGPA: 3.86/4.0, TA for ML and DS — May 2023

Experience

Deep Learning Research Assistant — August 2023 – Present
Kanso Bioinspired Motion AI Lab, University of Southern California — Los Angeles, CA

- Lead a collaborative effort with 4 peers to enhance neural network models using physics-informed loss for increased accuracy in solving differential equations of physical models
- Coordinate the use of TensorFlow and PySpark for distributed training, decreasing training time of stacked deep-O-net neural network models by 50%

Software Engineer Intern — June 2022 – August 2022
Hassoft Solutions — Karachi, Pakistan

- Designed a distributed algorithm in Python using PyTorch to train 10+ models and tune hyper-parameters through Bayesian optimization, reducing inference time by 90%
- Implemented C++ architecture employing priority queue and stack data structures to revamp call prioritization for a contact center client, achieving a 13% reduction in average handle time
- Executed code review and wrote end-to-end infrastructure documentation for JavaScript-based forex scrapers
- Engineered unit tests in Java for APIs of over 10 deployed algorithms following Agile and Scrum principles

Software Engineer Intern — June 2021 – August 2021
ISSM.AI — Islamabad, Pakistan

- Automated unit integration testing of machine learning models using Git for version control and Bash scripting to improve update coordination, leading to a 15% reduction in deployment times
- Integrated a Docker and Python-based data extraction and transformation pipeline to address performance bottlenecks, achieving a 20% reduction in processing time
- Collaborated with cloud engineers to migrate an e-commerce platform's backend from Oracle to MongoDB achieving a 20% improvement in query response times

Software Engineer Intern — June 2020 – August 2020
C Square — Karachi, Pakistan

- Collaborated with network engineers to develop a C++ based simulation tool for internal network performance analysis, resulting in a 15% reduction in network down-time for a mobile network client
- Enhanced an existing e-commerce web application by integrating dynamic content loading using JavaScript, leading to a more intuitive user interface and a 30% increase in customer satisfaction ratings
- Engineered a customer interaction data warehousing solution on AWS to automate PowerBI reports for an e-commerce site, leading to 25% more data-driven decision making

Projects

A Transformer-based Character Level GPT | Python, PyTorch
A Machine Learning and Linear Algebra Library | C++, C, MakeFile, QMake, Shell, OpenCL
Realtime Facial Expression Detector | Python, Keras, OpenCV, NumPy

Skills

Languages: Java, C, C++, Python, GoLang, SQL, PHP, MySQL, HTML, JavaScript, TypeScript, MATLAB
Cloud Infrastructure: MongoDB, AWS, Oracle, Google Cloud, Firebase
Front-end Technologies: Next.js, Express.js, React.js, Node.js, Vue.js
Devops (CI/CD): Git, Make, Docker, Kubernetes, CMake, Linux, Unix, Conda