AHMED ULLAH

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EDUCATION

The University of Texas at Arlington – College of Engineering **Arlington, TX**
Bachelor of Science, in Computer Science August 2020 – May 2024
AWARDS: Dean's List (2021); Presidential Honors Scholar (2020 - 2024)

TECHNICAL SKILLS

FULL STACK: C#, C, C++, .NET, Python, Java, JS, J2EE, GoLang, TypeScript, Angular.js, React.js, CSS, HTML, MongoDB, SQL, PostgreSQL
MACHINE LEARNING/DATA SCIENCE: NumPy, Pandas, Scikit-Learn, cuDNN, TensorFlow/Keras, PyTorch, Matplotlib, Seaborn, Caffe, Tableau
TECHNOLOGIES/OTHER: Azure, AWS, GCP, AJAX, jQuery, OAuth, Oracle, MySQL, Git, GitLab, TravisCI, Grafana, Kubernetes, Docker, Agile, CI/CD, RESTful APIs, FastAPI, Flask, ELK-Stack, Terraform, Ansible, Jenkins, AWS-Lambda, Prometheus, WindowsOS, LinuxOS

EXPERIENCE

AI Healthcare Stealth Startup **Pittsburgh, PA**
Co-Founder | CTO | Lead Machine Learning Engineer June 2024 – Present
- Fine-tuned NLP architecture Med-BERT (UCSD) for precise clinical summaries from diverse patient notes across specialties.
- Built a data pipeline with Python and Pandas, managing large-scale datasets like MIMIC-III and i2b2 for model training.
- Optimized the model using quantization, pruning, and mixed-precision training, boosting efficiency and reducing latency.
- Deployed Med-BERT in a scalable framework with Docker and Kubernetes, integrating seamlessly with EMR systems.
- Led MVP development in an Agile environment, managing sprint planning, code reviews, and continuous integration.
- Designed and managed a local GPU cluster using NVIDIA RTX 4090s, enabling rapid training while cutting cloud costs.
- Contributed to strategic planning, aligning the technical roadmap with goals for scalability, funding, and market deployment.

Boros Laboratories LLC **Irving, TX**
Founder | CEO | Lead Machine Learning Researcher October 2021 – Present
- Led AI-driven research, developing assistive technologies to empower individuals with disabilities through advanced ML solutions.
- Directed large interdisciplinary teams, leading multiple projects and publications in healthcare and assistive technology.
- Integrated computer vision, NLP, and deep learning to design scalable, real-time AI systems for complex challenges.
- Spearheaded the deployment of high-performance AI systems, ensuring scalability and efficiency in healthcare applications.
- Collaborated with academic and industry leaders, driving groundbreaking research with significant societal impact.
- Managed R&D teams and operations, pushing the boundaries of AI technology with real-time optimization strategies.
- Pioneered strategic initiatives, aligning Boros Laboratories' vision with cutting-edge advancements and societal needs.

NSF Research Experience for Undergraduates Program – UTA College of Engineering **Arlington, TX**
Software Engineer & Machine Learning Researcher June 2023 – August 2023
- Created an assistive smart glasses prototype for memory loss patients to independently manage grocery needs from home.
- Developed a back-end administration platform with C#, .NET and MySQL, allowing users to take control of prototype features at various levels.
- Integrated PHP for dynamic content management, enhancing the system's user interface and backend connectivity.
- Trained and deployed CNNs for accurate grocery item recognition, achieving 93.2% & 82.6% mAP scores on the Freiburg dataset.
- Researched state-of-the-art methods, providing a solid basis for the prototype, cutting 25% of development time and costs.
- Utilized a Raspberry Pi 4B+ and a Raspberry Pi Camera Module v2 for processing and data collection, ensuring seamless UX.
- Led, collaborated with, and directed a team of graduate and undergraduate researchers in an Agile/Scrum environment.

PROJECTS

Tortoise: An Assistive Smart Glasses System for People with Memory Loss Conditions June 2024
Lead Machine Learning Engineer
- Pitched a new smart-glasses and watch technology project, Tortoise; awarded a grant to lead and develop the prototype to help Alzheimer's and dementia patients.
- Led the training, optimization, and deployment of image classification architectures, including VGGFace2, EfficientNet, & YOLOv9.
- Directed engineers in designing and developing the system prototype, streamlining progress with Agile methodologies.
- Developed a RESTful API server to efficiently handle data transfer between system components with C# and ASP.NET Core.
- Implemented and managed backend services using C++, C# and ASP.Net Core, integrated with SQL for efficient data handling.
- Utilized Docker for orchestration and containerization of microservices, ensuring efficient deployment.
- Managed data operations using MySQL and Oracle to streamline application performance and maintain data accuracy.
- Leading beta prototype testing stages, aiming to present advancements of Tortoise at the AI in Health Conference in 2025.

Track Records May 2024
Full Stack Developer & Machine Learning Engineer
- Collaborated with a team of engineers in empowering users to understand their music streaming habits.
- Developed a unique machine learning music recommendation system via Spotify's BaRT recommendation system architecture.
- Led backend development efforts with C#, enhancing database infrastructure, and implementing data mining techniques.
- Assisted the team in developing front-end (website) UX/UI features using React.js (JS and TS), CSS, and HTML.
- Managed version control and collaboration using Git and GitHub, following Agile methodologies for project management.
- Deployed the application utilizing AWS, ensuring scalable and reliable cloud infrastructure, with backend services.