

Moksh Shah

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PROFESSIONAL EXPERIENCE

Rational CyPhy

Machine Learning Engineer

Urbana, IL

May 2024 - Present

- Developed autonomous aircraft flight systems using reinforcement learning algorithms for computer vision-guided navigation
- Trained and optimized deep learning models through systematic tuning, achieving 65% improvement in autonomous drone mission success rates
- Architected and deployed scalable MLOps pipelines to evaluate and operationalize models in production environments
- Augmented training datasets with synthetic data generated from advanced NeRF and Gaussian Splatting models, significantly improving model robustness
- Validated and preprocessed datasets for drone-based computer vision systems, enabling robust obstacle detection and avoidance capabilities
- Delivered actionable insights to executive leadership through compelling data visualizations and technical presentations

Fiserv

Software Engineer Intern

Chicago, IL

June 2022 - Aug 2022

- Designed and implemented UI enhancements and gamification features across multiple client-facing products, driving a 40% increase in user satisfaction and engagement metrics
- Developed and deployed internal Angular web application for automated REST API endpoint validation, enabling real-time monitoring and continuous integration testing
- Engineered custom monitoring utility software that streamlined API endpoint health tracking, significantly improving operational efficiency and reducing manual oversight requirements

Fiserv

Software Engineer Intern

Chicago, IL

June 2021 - Aug 2021

- Executed comprehensive load testing and performance optimization on enterprise-scale distributed systems, achieving 99% reliability under high-traffic conditions and preventing potential system failures
- Architected and maintained multiple Spring Boot microservices within enterprise API infrastructure, delivering scalable backend solutions that met critical business requirements and improved system modularity

EDUCATION

University of Illinois Urbana-Champaign

Master of Computer Science (M.C.S.); GPA: 3.8/4.0

Champaign, IL

Aug 2023 - May 2024

- Relevant Coursework: Computer Vision, Data Mining, Advanced Information Retrieval, Statistics

University of Illinois Urbana-Champaign

Bachelor of Science (B.S.) in Computer Science (Minor in Mathematics); GPA: 3.9/4.0

Champaign, IL

Aug 2020 - May 2023

- Awards: Dean's List (2020, 2021, 2022), Indian Community Outreach Scholarship for Academic Excellence (2020)
- Relevant Coursework: Machine Learning, Natural Language Processing, Computational Photography, Text Information Systems, Database Systems

RESEARCH & PROJECTS

Deep Learning-Based Image Deblurring System

- Developed deep neural network for image deblurring using PyTorch with custom CNN architecture incorporating residual connections and attention mechanisms for various blur types
- Implemented advanced data augmentation and synthetic blur generation pipeline, improving model generalization across diverse blur conditions

Wikipedia-Based Language Model

- Built and trained transformer-based language model on Wikipedia corpus, processing millions of articles for comprehensive knowledge-aware system
- Optimized training efficiency through gradient accumulation, mixed precision training, and learning rate scheduling, reducing computational costs

TECHNICAL SKILLS

Programming Languages: Python, SQL, C++, Java, C, HTML, Javascript, CSS, Scala, OCaml

ML/AI Frameworks: PyTorch, TensorFlow, Scikit-learn, Pandas, ONNX, OpenCV, Ray, Spark, MLFlow

Development Tools: AWS, Git, Jira, Docker, Linux, ROS