UTKARSH SHARMA

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EDUCATION

THE OHIO STATE UNIVERSITY Columbus, Ohio
Master of Science in Computer Engineering (4.0 on 4.0 scale) Aug, 2023-May, 2025
- Research Work: In-transit Data Compression on Heterogeneous HPC Systems
- Clubs*:* Collaborative Software Development Club. Competitive Programming Club

INDIAN INSTITUTE OF TECHNOLOGY (IIT) KANPUR Kanpur, India
Master of Science, 8.75 GPA (3.7 on 4.0 scale, Top 1% of the graduating class) Aug, 2020-June, 2022
- Research Work*:* Surrogate Modeling For Composite Damage Analysis Using Deep Learning
- Clubs*:* Music Club. Programming Club. Business Club. Design & Animation Club

TECHNICAL SKILLS

- **Languages***:* C, Java, Python, Matlab, HTML, CSS, JavaScript, Scala
- **Technologies:** Spring, Spring Boot, Spark, REST, JUnit, AWS, JSON, Docker, Kubernetes, PyTorch, Keras
- **Databases***: SQL,* MySQL, PostgreSQL, Sqlite, Azure, Snowflake, ElasticSearch, MangoDB
- **Tools**: Git, JIRA, Jenkins, Intellij, Maven
- **Academic Courses:** Operating Systems, Database Management Systems, Algorithm Design & Analysis, Computer Architecture, Data Mining, Computer Vision, Artificial Intelligence, Web Technologies, Statistics and Machine Learning, Intro to Neural Networks
- **MOOCS**: "Deep Learning for Coders"(Fast.ai), "Machine Learning" by Stanford University (Coursera), RESTful Api and Microservices

EXPERIENCE

LARSEN & TOUBRO INFOTECH *Spectra-An ETL based Product* Bangalore, India
Senior Product Engineer July, 2022 – July, 2023
- Designed and developed backend for customer-off boarding by analyzing existing codebase, interviewing senior architects and building feature requirements for databases, Kubernetes pods and RabbitMQ, reducing DB management costs by $100k
- Implemented product installation and update journey by shadowing DevOps to understand current capability, reading multiple pre and post deployment plans and automating the process using bash, reducing deployment time by 50%
- Led the team to adopt agile methodologies like daily scrum, sprint, retrospective and a novel mentorship model to improve development efficiency of team, improving developer team velocity by 3 story points per sprint
- Developed regression testing framework by analyzing current testing strategy, understanding testing requirements and evaluating multiple technologies; implemented Selenium based regression tests to reduce on-call incidents by 10%

TCSIon Remote
DevOps Engineer Intern July, 2020 – Oct, 2020
- Executed an automated CI/CD pipeline using Jenkins, Docker, and Kubernetes, reducing deployment time by 10%, ensuring seamless delivery of software updates to a large-scale production environment serving over 1 million vital customers
- Implemented a Python deep web-crawler and computed product-centricity scores based on ad publisher's domain

PROJECTS

IIT-Kanpur - Surrogate Modeling For Composite Damage Analysis Using Deep Learning
- Created a representative volume element(RVE) by examining homogenization techniques, response behavior of composite laminates, significantly reducing computation cost for modeling practical loading scenarios by 75%
- Developed a Deep Learning model to predict the composite response by feeding actual data from RVE, fine-tuning model hyper parameters, conducting extensive testing, achieving a prediction accuracy exceeding 90%

Gitlet - Mini version of Git | Enigma Project | MineSweeper Game | Human Face Detection using Deep learning
- Developed Mini version of Git including git init, git add, git commit, git log using encoding and Hash-map for commits
- Analyzed and implemented code for Enigma machine, first built during World War II, for encrypting and decrypting WhatsApp messages integrating with APIs provided by Twilio
- Created a fully functional "Minesweeper Game", published an mobile application on Google Play-Store

Human Face Detection using Deep learning
- Designed a compact feature representation for facial images by finding the most relevant features and implementing PCA; reducing the dimensionality, enhancing the model's efficiency and speed in real-time face detection scenarios by 25%.
- Executed a deep learning model by utilizing convolutional neural networks (CNNs) to automatically extract and learn facial features; improving the detection accuracy by 30% compared to classical feature based algorithm like cascade classifier.

ADDITIONAL

- **Tutoring***:* Delivered more than 100 lectures on Java and Data Structures on Preply, supported multiple students
- **Languages:** English, Hindi, Punjabi
- **Music***:* Secured third position at Association of Indian Universities in the years 2016 and 2017