Irfan Firosh

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Education

Purdue University — West Lafayette, IN
B.S Computer Science and Mathematics, GPA: 3.98 — December 2026
- Relevant Coursework: Data Mining & Machine Learning, Systems Programming, Data Structures and Algorithms, Computer Architecture, Discrete Mathematics, Multi-variable Calculus, Statistics, Linear Algebra

Work Experience

Research Assistant — Jan 2025 - Present
Purdue University — West Lafayette, IN
- Utilized OpenCV and image processing techniques, including Otsu thresholding, contour detection, and 3D image stacking, to identify cortical pores and generate 3D visualizations from HR-pQCT images
- Developed a deep learning algorithm using Graph Neural Networks (GNNs) to identify cortical pores and predict bone deterioration by analyzing pore connectivity and structural integrity

Teaching Assistant — August 2024 - Dec 2024
Purdue University - College of Science — West Lafayette, IN
- Teaching assistant for CS180 - Problem Solving and Object-Oriented Programming
- Assisted 40+ students with core CS concepts, homework, and projects, and collaborated with TAs and lab instructors to develop weekly Java programming assignments

Software Engineer Intern — May 2024 - July 2024
Mindster — Bangalore, India
- Trained an OCR model for text recognition and scanning, and a Naive-Bayes model for text classification, improving data processing efficiency by 41%
- Designed a workflow management tool to assist project planning routines resulting in increased productivity
- Developed a responsive full-stack website tailored to client requirements using Laravel, Bootstrap, and MySql

Undergraduate Data Science Researcher — Aug 2023 - May 2024
Inogen — West Lafayette, IN
- Worked with Inogen to analyze historical data for predicting machine failure
- Used R, SQL, and Python to extract actionable insights leading to a 15% increase in data-driven decision-making efficiency
- Trained LSTM and VAR multi-variate models for forecasting, achieving a 92% accuracy rate

Projects

MockMade — Feb 2025
- Built an AI mock interview platform to help job seekers improve their technical and behavioral interview skills
- Implemented Retell AI, OpenAI GPT-4o, Whisper, and Cartesia Sonic for real-time interviews and feedback
- Developed with Next.js, TypeScript, MongoDB, Auth0, Render, and Vercel for a scalable and secure user experience

Skopa — June 2024
- Created a platform to help D2C companies analyze customer feedback from social media
- Implemented social media scraper using BeautifulSoup, BERT for sentiment analysis, a vector embedding model from HuggingFace and Pinecone for vector search
- Built the app with Next.js and TypeScript with Authentication and Postgres to store user-related information.

PrepMaster — July 2024
- Developed an interactive platform to help computer science students with interview prep with Laravel and MySQL
- Included a LeetCode question bank with advanced search and filters with an analytics page for performance metrics
- Designed an internship application page using the CareerJet API to assist with job searches and applications

Skills

Languages/Frameworks: Java, R, Python, SQL, HTML, CSS, JavaScript, PHP, Microsoft Azure, React, Next.js, Laravel, C, C++
Dev Tools: Git, Unix Shell, Jupyter Notebook, LaTeX, Tailwind CSS, OpenCV