Divyansh Shivashok

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Education

University of Massachusetts Amherst — Amherst, MA
Bachelor of Science in Computer Science and Mathematics; GPA: 3.85/4.0 — *Expected Graduation: May 2025*

Experience

Microsoft — May 2024 – Present
AI/ML-focused Software Engineer Intern — *Redmond, WA*
- Developing Copilot AI functionalities for Microsoft Dynamics 365 products.
- Conducting data analysis and feature engineering to optimize model performance.
- Utilizing Azure cloud services for model deployment, scaling, and ensuring robust and scalable AI solutions.

UMass Amherst Computer Graphics Lab — November 2023 – Present
Researcher — *Amherst, MA*
- Researching diffusion models for better user control over 2-D image generation.
- Working with UMass Amherst Computer Graphics Lab and Professor Evangelos Kalogerakis.

MIT Computer Science and AI Lab (CSAIL) — May 2023 – Present
Researcher — *Cambridge, MA*
- Researching geometric deep learning: 3D image generation models and learning functions for neural fields.
- Collaborating with MIT PhD candidate Clinton Wang on literature review.

Fisheye — June 2023 – September 2023
Machine Learning Engineer Intern — *Maynard, MA*
- Created MLOps framework from ground up to analyze real-time data from embedded systems.
- Engineered generative AI apps and RAG pipelines for product proposal writing and code generation from company codebase.
- Achieved 70+% accuracy in air traffic classification using ML models and Big Data Preprocessing on sensor data.

Quantiphi — June 2021 – August 2021
Machine Learning Engineer Intern — *Marlborough, MA*
- Built an object detection model to detect and segment liver tumors from 3D CT scan volumes.
- Achieved 98% accuracy (0.98 DICE score) on LITS 2017 dataset using a 2D UNet with ResNet34 backbone.
- Deployed model on Google Cloud Platform to generate API calls to model.

Projects

UChicago Trading Competition | *Python, Pandas, NumPy, Matplotlib* — April 2024
- Developed 3+ novel algorithms for evaluating fair price and implemented trading strategies such as ETF arbitrage, penny in/penny out, and placing level orders using custom fair value prediction models.
- Stress tested 10 cutting-edge portfolio optimization algorithms, including PAMR and GNQTS, and performed rigorous data exploration testing, compiling over 40,000 lines of data, graphs, and charts.
- Created a custom GUI for real-time monitoring and tuning of hyperparameters: fade, slack, edge.

RouteAble | *Python, Tensorflow, PyTorch, ErgoBlockchain, JavaScript, React Native* — November 2023
- Launched unique full-stack app to crowd-source images of inaccessible areas, including Blockchain stack in 36 hours.
- Implemented two ML models: object similarity and image detection models to identify unique images of stairs, ramps, guard rails. First and only app with embedded tag generation model for disabled users.
- Won "Most Impactful Project" award sponsored by the Uchicago Tech Showcase.

Achievements

John E. and Alice M. Flynn Scholarship and Dean's Merit Scholarship Recipient | *UMass Amherst* — 2023
- Selected 1 / 1732 students for two awards for rigor, merit, and dedication to "Computing for the Common Good".

Two-time USNCO High Honors | *American Chemical Society* — 2021, 2022
- Ranked top 50 out of 16000+ competitors twice in the U.S. National Chemistry Olympiad in 2021 and 2022.

Bristol Programming Competition | *Bristol College* — 2022
- Secured first place in county-wide programming competition for outstanding project.

Skills

Languages: Java, Python, C, C++, JavaScript, HTML/CSS, Octave, LaTeX
Spoken Languages: English, Hindi, Intermediate in Sanskrit, Spanish, and Japanese
Developer Tools: Git, Microsoft Azure, Amazon Web Services, Google Cloud Platform, VS Code, Anaconda, PyCharm
Interests: Exercising (weightlifting), Reading (philosophy), and Chemistry (organic, physical, analytical)