MARK NGUYEN

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EDUCATION

Illinois Institute of Technology — **Chicago, IL**
Bachelor's Degree, Computer Science, SHPE and NSBE Student Representative — *Aug 2022 - Jun 2026*

SKILLS

Languages: JavaScript, Java, SQL, Python, Matlab, HTML, C, CSS, Dart, Kotlin
Frameworks: Express.js, AngularJS, Node.js, React.js, Bootstrap, Flask
Technologies: TensorFlow, Pytorch, Azure, MongoDB, Amazon Web Services (AWS), Firebase, Heroku, Docker, Git, Github
Awards & Honors: 1st Place ILSAMP Computing 2023, VEX Robotics State Qualifier '22, Fall IIT Dean List, Illinois State Scholar

WORK EXPERIENCE

Argonne National Laboratory — **Lemont, IL**
Machine Learning Research Intern — *May 2023 - Aug 2023*

- Conducted Machine Learning/AI research on streamflow forecasting for US Department of Energy EVS Division
- Hyperparameter-tuned LSTM Neural Network models by currently 163% through cross-validation and grid search
- Utilized PyTorch and TensorFlow for deep learning, analyzing hourly geospatial data to aid Indigenous communities

NASA L'SPACE — **Tempe, AZ**
New Technology Project Developer — *Jan 2023 - Apr 2023*

- Developed and submitted an innovative 8-page space technology proposal and a New Technology Report (NTR)
- Created and managed KPP, Gantt charts, Risk Matrix, and Quad Charts for project tracking and risk assessment
- Engaged with Subject Matter Experts (SMEs) including NASA HRP Chief Scientist, Professors, and Engineer

VOLUNTEERING

IIT Association for Computing Machinery (ACM) — **Chicago, IL**
Vice President — *Sep 2022 - Present*

- Managed the largest computing club in the university by engaging in diverse students' personal projects
- Led and created a weekly Python Crash Course for 50+ local students from the South Side Chicago neighborhoods
- Organized my university's annual MLH sponsored Hackathons via Slack, Discord, Notion, Microsoft 365, and Jira

PERSONAL PROJECTS

Automated Medical Yeoman
Java, SQL, JDBC

- Research project funded by NASA of $10,000 to implement UWMS health diagnosis systems for current spacecraft
- Utilized Java, SQL, JDBC to build a health database system for storing, querying, and analyzing patient data
- Received 1st Place NASA L'SPACE Proposal Spring 2023 from NASA Marshall Space Center Chief Technologist

3-D Printed Refreshable Braille Display
C/C++, MATLAB

- An individual research project funded by the National Science Foundation of $2100 to develop frugal braille display
- Utilized C/C++, MATLAB to optimize braille refresh rate using statistical matrix operations, graph theory, HCI
- Received 1st Place Computing Award ILSAMP 2023 and created a Braille Cell that is ≈630% cheaper than market

Robot-Wars Game
Python, Pygame, JSON, PIP packages

- A full-stack battle royale game enabling students code their robots to compete in an arena using projectiles
- Utilized Python, Pygame, JSON, and pip packages for bracket system, map seeding algorithms, and state-saving
- Official game for my University's preeminent Hackathon with 100+ players, fostering creative coding & community

PhởFilled
MongoDB, ExpressJS, ReactJS, Next.JS

- Food delivery platform catered only to Viet foods to empower local Vietnamese independent restaurants in Chicago
- Utilized MongoDB to encompass user profiles, order histories, restaurant details to optimize data retrieval
- Used AngularJS for real-time UI updates, ExpressJS on a Node.js server for request processing / user authentication

Rotating ASCII-Bean Art

- Rendered a spinning ASCII art bean, detailing how the code efficiently projects a 3D bean onto a 2D plane
- Based on unique equation "Bean Curve", used trig functions, Z-buffering, perspective rendering, and linear algebra