

LUCAS NGUYEN

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EDUCATION

Purdue University - West Lafayette, IN

GPA: 3.75/4.0

Master of Science in Computer Engineering

Expected Graduation: May 2026

Bachelor of Science in Computer Engineering, Minor in Management

Expected Graduation: December 2025

Concentrations: Artificial Intelligence and Machine Learning, Software Engineering

Relevant Coursework: Artificial Intelligence, Computer Network Systems, Python for Data Science, Advanced C Programming, Data Structures and Algorithms, Object Oriented Programming in C++, Probabilistic Methods

TECHNICAL SKILLS

Programming Languages: Java, Python, C, SQL, C++, JavaScript, HTML, CSS, Matlab

Tools/Libraries: Agile, JIRA, Tensorflow, PyTorch, NumPy, Pandas, Scikit-learn, Docker, Git, SVN, Node.js, Jenkins

Frameworks: React, Flask, Angular

EXPERIENCE

C&R Software

Fairfax, VA

Backend Software Engineering Intern

May 2024 – August 2024

- Led a team of interns to facilitate JPA/Hibernate framework upgrades by replacing 100+ deprecated methods using SQL/HQL and used paging functionality and cross-referenced XML data to access/verify database resources in Java
- Designed and implemented 50+ integration/regression tests in Java using DAOs/DTOs to ensure proper database access across multiple classes and validate equivalent functionality with JPA/Hibernate upgrade changes
- Implemented REST API code changes to facilitate client specific data read/writing functionality
- Executed backport/bug issue fixes by leveraging Agile methodologies and implementing logic and runtime efficiency changes to various classes and APIs

Full Stack Software Engineering Intern

May 2023 – August 2023

- Optimized 200+ check style issues in the back-end codebase libraries to improve code readability and efficiency in Java
- Designed 10 Junit test cases to ensure code functionality and quality on various REST service APIs
- Implemented fixes to prevent security vulnerabilities using transport layer security and signature verification in Java
- Improved frontend user experience and fixed visual functionality bugs using CSS, JavaScript, and TypeScript

PERSONAL PROJECTS AND EXTRACURRICULARS

Computer Vision/Machine Learning Research Assistant

January 2025 - Present

- Developed machine learning architecture for edge detection in noisy images and low light at Guo Labs
- Improved accuracy in detecting distance between objects in noisy images using edge smoothness parameters
- Increased color map density for output images and increased framerate speed for edge detection in video input
- Analyzed floating point operations and computational complexity for local and global models and pruned parameters to reduce model size and improve computation speed

React/Flask Powerlifting Form Analyzer Webapp

- Built a multi-page routed webapp which displays metrics from a SQLAlchemy database using Python
- Implemented MoveNet AI pose detection to collect data metrics on joint location and distances to store in the database unique to each powerlifter using SQL, JSON, and HTTP methods
- Leveraged machine learning techniques such as KNearestNeighbors to compare an input image with the metric data in the database to find the most anatomically similar professional powerlifter for a particular exercise

Facial Recognition Convolutional Neural Network

- Utilized OpenCV library to take photos as training, testing, and validation data, used LabelMe to annotate face in each picture, and implemented albumations to perform visual augmentation to pictures to create additional datasets.
- Built a convolutional neural network with backpropagation using VGG16 architecture to perform real time face detection and tracking in Python

Bridge Traffic Model Analysis

- Implemented various data science techniques such as ridge regression, regularization, and KNN classification to analysis relationships between day of the week and weather patterns with the number of bikers across various bridges in New York City

Kappa Pi Beta Fraternity Inc.

West Lafayette, IN

Treasurer

August 2023 – December 2024

- Oversaw and coordinated fundraiser events by managing budgets and logistics planning
- Communicated budget goals as well as cost profit analysis and maintained transparency in financial reporting