

# CADE AGOSTINELLI

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## EDUCATION

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### Bachelor of Computer Science

May 2026

Mississippi State University

GPA: 3.80

## SKILLS

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### Programming Languages

Python, C++, C, Java, JavaScript, SQL, HTML/CSS

### Technologies

Pandas, Docker, Flask, Django, MongoDB, React, Node.js, Jenkins, Pytorch

## EXPERIENCE

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### Software Engineer Intern

May 2025 - Present

Volvo Group

*Greensboro, NC*

- Developed and patenting a real-time system to be deployed on vehicles to estimate cornering stiffness of tires using Recursive Least Squares algorithm, reducing reliance on \$10K+ tire testing procedures
- Automated tire analysis workflows in the company's internal software using Python, significantly reducing manual testing time for mechanical engineers
- Developed scalable Python scripts to batch-process and extract key performance statistics from thousands of log files using Pandas
- Automated weather and temperature related deployment and analysis of vehicles using the open source library Meteostat along with Jenkins

### Software Engineer Intern

Jan 2024 - Apr 2024

Hintjen

*Starkville, MS*

- Collaborated and helped lead the development of the backend production code for an event social media app, utilizing React, Django, and Node.js, resulting in a user-friendly interface with efficient backend integration
- Implemented notification and phone verification functionality of the app using Twilio API and developed REST APIs for seamless communication between frontend and backend services
- Developed unit tests for Hintjen's extensive systems and clients, achieving 90% average code coverage
- Improved Hintjen's asynchronous client by developing over 60+ unit tests with Python while collaborating with senior software engineers to conduct code reviews and re-implement the client's infrastructure

## PROJECTS

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### Diabetes Risk Prediction Model

- Built a machine learning model using PyTorch to utilize clinical and demographic data to predict diabetes risk
- Achieved approximately 70% accuracy by improving neural network parameters

### Generative Adversarial Network (GAN) for X-ray Images

- Designed and implemented a GAN using PyTorch to generate synthetic X-ray images of pneumothorax
- Optimized generator and discriminator architecture to improve quality of generated images

### Drowsy Driving Engineering Design

- Created a product addressing drowsy driving, culminating in an 80-page portfolio
- Coded Arduino mechanics in C++ and integrated sensor-driven alert mechanisms
- Collaborated with senior industry engineers for evaluation and feedback of the prototype