Sophia Martinez

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Education

University of Illinois Urbana-Champaign Aug. 2017 – May 2021
Bachelor of Science in Computer Engineering *Urbana-Champaign, IL*

- **Relevant Coursework**: Embedded Systems, Cloud Computing, Database Design, Parallel Computing
- **GPA**: 3.88/4.00
- **Activities**: IEEE Student Chapter (Vice President), HackIllinois Organizer, Women in Engineering Program

Experience

Software Engineer Intern May 2020 – Aug. 2020
NextGen Solutions *Seattle, WA*

- Developed and deployed a scalable API for financial data analysis, reducing processing time by **40%** and supporting **10,000+ daily requests**.
- Integrated microservices architecture using Kubernetes, ensuring seamless communication between services.
- Designed a CI/CD pipeline in Jenkins, cutting deployment time from hours to **15 minutes**.
- Improved database query performance by **30%** through optimization of SQL procedures and indexing strategies.

Undergraduate Research Assistant Jan. 2019 – May 2020
Coordinated Science Laboratory *Urbana-Champaign, IL*

- Contributed to the development of an energy-efficient wireless sensor network, optimizing data transmission protocols.
- Implemented machine learning models in Python to predict sensor failures, improving maintenance scheduling by **25%**.
- Co-authored a paper on "Adaptive Wireless Network Protocols" published in the **Journal of Embedded Systems**.
- Collaborated with a team of 6 researchers to develop a simulation framework for testing protocol efficiency.

Projects

HealthConnect App *React Native, Firebase, Flask, TensorFlow*
Jan. 2021 – Apr. 2021

- Designed a cross-platform mobile application to connect patients with healthcare professionals for telemedicine consultations.
- Integrated TensorFlow models for real-time health data analysis, achieving **95% accuracy** in heart rate anomaly detection.
- Built a secure authentication system with Firebase, ensuring HIPAA compliance for sensitive patient data.
- Launched the app to a beta user group of 1,000 users, receiving **4.7/5 average ratings** for usability and reliability.

FarmSmart IoT System *Python, Raspberry Pi, AWS IoT, MongoDB*
Jun. 2020 – Sep. 2020

- Developed an IoT-based monitoring system for precision agriculture, enabling real-time tracking of soil and weather conditions.
- Programmed Raspberry Pi devices to collect and transmit sensor data to AWS IoT Core for processing and analysis.
- Designed a user-friendly dashboard to visualize data trends and generate actionable insights, increasing crop yield by **15%**.
- Reduced data latency by **20%** through optimization of data transmission protocols and cloud integration.

Technical Skills

Languages: Python, JavaScript, C, SQL, Java, Kotlin

Frameworks: React, Flask, Django, TensorFlow, PyTorch, React Native, Kubernetes

Tools: Git, Docker, Jenkins, Firebase, AWS, PostgreSQL, MongoDB, Raspberry Pi

Technologies: IoT, Machine Learning, Cloud Computing, Embedded Systems