Beau Carlson

Edge and Industrial Network Systems Research Intern

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STRENGTHS

Adaptability
Seamlessly adjusted project expectations based on feedback and lessons learned, fostering continuous improvement.

Collaboration
Built solid relationships with fellow researchers, sharing insights freely and leading brainstorming sessions that spurred innovation.

Communication
Articulated complex ideas clearly during team presentations, creating clarity around technical concepts for varied audiences.

Problem-Solving
Excelled at quickly identifying core issues during project execution, helping teams pivot swiftly toward effective solutions.

Technical Expertise
Demonstrated comprehensive knowledge of edge tech by designing functioning prototypes that routed complex data efficiently.

SKILLS

C# Python Edge Computing
Industrial IoT Networking CI/CD
Data Analytics
Software Prototyping
Agile Development
Data Processing
System Integration
Performance Analysis
Network Security
Device Management

SUMMARY

Master's student in Computer Engineering at the University of Illinois, equipped with practical experience in edge computing and industrial IoT through extensive academic projects. Proficient in C# and Python programming, focusing on developing scalable software solutions. Demonstrated expertise in network fundamentals, including TCP/IP and secure communication matters. Excels in collaborative efforts, consistently contributing innovative technology insights that drive success in research-driven environments.

EDUCATION

Master's Degree in Computer Engineering

University of Illinois GPA: 3.8 2026 Champaign, IL

Coursework: *Networking, Distributed Systems, Edge Computing, Software Engineering*

Bachelor's Degree in Computer Engineering

University of Illinois GPA: 3.7 2024 Champaign, IL

Coursework: *Programming, Data Structures, Algorithms, Digital Systems*

TECHNICAL SKILLS

- **Programming Languages:** C#, Python
- **Networking Principles:** TCP/IP, Routing, DNS
- **Software Development Tools:** Git, CI/CD, Unit Testing
- **Industrial IoT Technologies:** Edge Devices, Cloud Integration, MQTT
- **Analytical Frameworks:** Data Visualization, Real-Time Processing, Monitoring Systems
- **Project Management Tools:** Trello, JIRA, Asana
- **Cloud Platforms:** AWS, Azure, Google Cloud
- **Documentation Standards:** IEEE Formatting, Markdown, LaTeX
- **Security Protocols:** VPNs, Firewalls, Intrusion Detection
- **Research Methodologies:** Empirical Studies, Case Analyses, Technical Writing

EXPERIENCE

Research Assistant

University Research Lab January 2025 - Present Champaign, IL

Supported cutting-edge research in edge computing architectures, enhancing scalability for diverse industrial applications.

- Executed rigorous study on edge computing, focusing on scalability and performance challenges in practical settings.
- Developed prototypes utilizing C# and Python to streamline data processing and enhance analytics within IoT ecosystems.
- Engaged collaboratively with faculty and peers during system testing phases, driving improvements across distributed frameworks.
- Inspected network conditions rigorously, identifying critical issues while ensuring seamless edge-to-cloud connections.
- Authored detailed technical reports summarizing findings, projecting potential innovations for publication at academic venues.
- Effectively communicated research outcomes during presentations, gaining acknowledgment from both faculty and industry professionals.

Capstone Project Developer

Student Innovation Lab August 2024 - December 2024 Champaign, IL

LANGUAGES

English Native

MY CAREER

- Research Assistant at University Research Lab (1.5 Years)
- Capstone Project Developer at Student Innovation Lab (4 Months)

Conceptualized and developed an innovative prototype system designed for real-time monitoring of industrial equipment.

- Pioneered a system leveraging edge analytics to monitor equipment operations via immediate data processing capabilities.
- Implemented features to manage devices effectively and crafted workflows focused on reliability across processing events.
- Linked various datasets into the prototype, collaborating closely with cross-functional teams to achieve holistic integration.
- Conducted thorough evaluations of system efficiency, producing actionable insights that informed strategic optimizations.
- Delivered dynamic project presentations to faculty, receiving commendations for creativity and execution.
- Utilized Git effectively for version control, integrating automated testing strategies to sustain code quality.

Hackathon Team Member

Various Events March 2024 Springfield, IL

Collaborated intensively during a competitive hackathon to devise IoT-based solutions for smart city initiatives.

- Formulated an application prototype using edge devices to engage environmentally focused monitoring points.
- Worked alongside multidisciplinary teams, balancing tech-stack proficiency with practical IoT applications in tight deadlines.
- Ensured efficient and secure device communication using extensive understanding of networking protocols.
- Exhibited presentation skills on project day, showcasing effective teamwork under challenging time constraints.
- Acquired adeptness in rapid iteration cycles and agile methodologies relevant for current tech landscape developments.

LEADERSHIP & AWARDS

- Dean's List, University of Illinois (2024, 2025)
- First Place, Regional Hackathon (2024)

CERTIFICATIONS

- Certified in Python Programming 2025
- AWS Cloud Practitioner 2025

PROFESSIONAL AFFILIATIONS

- Member, Computer Science Club, University of Illinois (2023 - Present)
- Volunteer Tutor, STEM Mentorship Program (2023 - Present)

ADDITIONAL INFORMATION

Work Status : Authorized to work in United States. No sponsorship required.

REFERENCES

AVAILABLE ON REQUEST