Michael A. Norris
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Professional Summary

Graduating PhD in Computer Science at Penn State University. Conducting research with a focus on fault tolerance and policy enforcement for safety and reliability in the Internet of Things environments. Motivated researcher exploring novel research topics.

Core Qualifications

- Highly developed knowledge of computer science and engineering concepts
- Familiarity with modern techniques and trends in cybersecurity and Internet of Things
- Rich skillset in designing and implementing new research ideas

Work Experience

Penn State University – State College, PA Graduate Assistantship, August 2017 – Present
Accomplishments:

- Designed novel fault handler to address the lack of handling solutions in Internet of Things environments through flexible use of various typical fault handling methods
- Developed a tool to analyze provenance information utilizing causal analysis and machine learning to make predictions about behaviors in IoT environments to predict likely future policy violations, their causes, and potential fixes

CA Technologies – Pittsburgh, PA Intern, June 2013 - August 2018
Accomplishments:

- Created an automated process for shutting down vital Pittsburgh lab equipment
- Led a team of Interns to develop a Visual Studio Code plugin to allow Visual Studio Code users to edit mainframe datasets from a distributed IDE.

Perspecta Inc. – Basking Ridge, NJ Intern, May 2020 - August 2020
Accomplishments:

- Assisted in developing a tool using LLVM passes to autonomously generate partitioned programs from non-partitioned code using security annotations

Education

- Penn State University – University Park, PA Graduation Date: May 2017
  Bachelor of Engineering in Computer Science GPA: 3.40
- Penn State University – University Park, PA Graduation Date: July 2025
  Computer Science and Engineering Doctor of Philosophy Degree GPA: 3.48

Publications

- Norris, Michael, et al. "IoTRepair: Systematically addressing device faults in commodity IoT." *2020 IEEE/ACM Fifth International Conference on Internet-of-Things Design and Implementation (IoTDI)*. IEEE, 2020.
- Norris, Michael, et al. ”IoTRepair: flexible fault handling in diverse IoT deployments.” ACM Transactions on Internet of Things 3.3 (2022): 1-33.
- Norris, Michael, et al. (2024) “ProvPredictor: Utilizing Provenance Information for Real-Time IoT Policy Enforcement,” in 2nd EAI International Conference on Security and Privacy in Cyber-Physical Systems and Smart Vehicles (SmartSP)