

Fangfang Cui

6440 Aviation Way,
West Chester Township, OH 45069

(513)309-2359
fangfang@vt.edu

Education **Ph.D. in Computer Science and Engineering**, University of Cincinnati. *Aug. 2017 - Present*
M.S. in Computer Engineering, University of Cincinnati. *Jan. 2016 - May 2017, GPA 4.0/4.0*
B.S. in Electrical Engineering, Virginia Tech. *Aug. 2010 - Aug. 2013, GPA 3.9/4.0*

Work Experience **Sr. Data Scientist, GE Aviation, Mar. 2017 – Present**

- Apply machine learning algorithms to predict manufacturing equipment failures based on sensory data and historical maintenance records. This improves asset performance, productivity and part quality. Specialize in working with industrial big data.
- Managed and mentored four data scientist co-ops from May 2017 to Dec. 2017.
- Develop analytics to predict component failures of aircraft engines.

Edison Engineering Development Program, GE Aviation, Sep. 2013 – Mar. 2017

- Led a team of five software engineers to create a full-stack Predix Edge application that collects data from GE industrial assets, provides real-time sensor monitoring, and performs prognostic analytics to predict asset failures.
- Led the full software development cycle for the machine monitoring project, which successfully unlock, collect, extract and store data from sensor-enabled industrial machines. This application includes a dashboard to display the real-time state of each machine across all GE Assembly Test Maintenance Repair and Overhaul sites. This application cuts down operation costs by enabling remote monitoring of grind machine statuses and providing operators the ability to control multiple grind machines.
- Designed and developed a software application to digitally record the Variable Stator Vane angles during engine assembly tests. This application provides data needed for operability analysis to minimize GENx's loss of operability margins. This application reduces annual operating costs by \$18,000 through time savings.
- Led the software development for the new generation Engine Test Console System in Evendale, which displays sensory data and its limits during engine test in test cells. The Console System is closely monitored by test engineers to ensure engine safety and test quality during an engine test. This Console System will be deployed in all test cells across GE Aviation once completed.
- Created a new data reduction software for Flight Test Operations that converts between different binary data formats. This new application significantly shortens processing time from 10 minutes to 30 seconds per file, producing yearly time savings of approximately 468,000 hours. Mentored a Co-Op to add additional features.

Infra Engineering Co-Op, GE Aviation, Aug.2012 – Dec. 2012

- Implemented an A/D Converter driver of the TMS470 Microcontroller and added controlling functionality to the existing Graphic User Interface.
- Developed PC control software and developed a Graphic User Interface for the Next Generation Data system that receives data across the network and plots it.
- Assisted with prototype testing of the Next Generation Data System.

Intern, Dominion Virginia Power, May. 2012 – Aug. 2012

- Read one line diagram, calculated short circuit fault clearing time, and built Excel spreadsheet that automatically connects to the existing database.
- Prepared root cause analysis report on insulator failure.
- Researched on the causes of wind turbine blade failure.

Research Project

Hybrid Electric Vehicle Team, Virginia Tech, Aug. 2011 – Aug. 2013

- Developed Graphic User Interface for the driver display of the vehicle.
- Worked on the controls sub-team: developing models to predict performance of hybrid powertrain.
- Worked on the electrical sub-team: drew schematics of the high voltage energy storage system.
- Wrote technical research papers and delivered presentations.

Embedded System for Controls, Virginia Tech, Jan. 2013 – Aug. 2013

- Interfaced a microcontroller to a physical system using an A/D converter, D/A converter and quadrature decoder.
- Given a controller designed in Simulink, automatically generated C code to implement the controller and interfaced it to the physical system.
- Wrote technical reports and presented results.

Power Systems Research Laboratory, Virginia Tech, Jan. 2012 – May. 2012

- Simulated Phasor Measurement Unit using computers to assist power systems.

Programming Skills

- | | | |
|--------------|---------|----------------|
| • Python | • R | • SQL |
| • Java | • C# | • CUDA |
| • JavaScript | • HTML | • Visual Basic |
| • Matlab | • C/C++ | |

Languages

Fluent in Mandarin Chinese, proficiency in translating between English and Chinese.

Honors & Awards

Honors Scholar, Virginia Tech, *Aug. 2013*

Freescale Innovation Award, EcoCAR 3, *Jun. 2013*

David Wright Foundation Scholarship, *Spring 2011*

Dean's List, Virginia Tech, *All semesters*

References available upon request.