

# JAMES LAMBERTI

## EDUCATION

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### **Lehigh University - Master of Science**

*August 2015 - Present*

Major: Computer Engineering, GPA: 4.0

### **Lehigh University - Bachelor of Science with High Honors**

*August 2012 - May 2015*

Major: Computer Engineering, Minor: Applied Mathematics, Overall GPA: 3.77, Major GPA: 3.90

## EXPERIENCE

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### **Lockheed Martin**

May 2015 - Present, Summer 2014

*College Technical Specialist Senior*

*Advanced Technology Laboratories*

- Supported development of Malware Lineage Extraction Toolkit (MaLET), part of DARPA's Cyber Genome Program.
- Re-architected portions of MaLET code base to improve usability, which was transitioned to Defense Cyber Crime Center (DC3).
- Implemented an internal cloud and range management system which resulted in increased performance and spawned an IR&D program.
- Responsible for developing and maintaining software shared across several programs and customers.

### **United Technologies Research Center**

Summer 2013, Winterbreak 2014

*Assistant Researcher*

*Embedded Systems and Networks, Cyber-Physical Security*

- Developed attacks for resilient and secure architectures. Proposed and developed a new architecture that was shown to be secure (see Publications).
- Developed multiple hardware trojans to demonstrate attacks on systems closely related to the interests of UTC.
- Designed algorithms for hardware trojan detection which became the basis of several later papers.
- Analyzed Building Automation and Control Network (BACnet) security and developed a series of attacks. Developed a reconnaissance kit for enumerating BACnet devices.

### **Database Publishing Systems**

Summer 2012, Winterbreak 2012/13

*Software Developer & Software Engineer*

- Designed and implemented new search functionality which was deployed to customers around the world.
- Led the development of an online healthcare system to enable a paperless work environment.
- Designed and implemented overall system security including compliance with HIPAA standards.
- Hosted several client meetings to capture system requirements, demonstrate capabilities and provide training.

### **United Technologies Corporation - Pratt & Whitney**

Summer 2011

*Manufacturing Engineer Intern*

*Hollow Fan Blades*

- Created automated analysis packages for product and process data pulled from SAP.
- Conceived & implemented barcode scanning and label auto-generation for part tracking on the factory floor. This system mistake-proofed parts of the factory and resulted in a significant cost savings.

## COMPUTER SKILLS

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<b>Computer Languages</b>	Python, C/C++, Java, Assembly, C#, VB.NET, ASP.NET, SQL, HTML, CSS, PHP, JavaScript, AJAX, VBA, Verliog, LaTeX, MATLAB
<b>Applications</b>	Git, Simulink, MySQL, Microsoft SQL server, MongoDB, LabVIEW, PSpice, Windows, Linux, UNIX, ModelSim, Xilinx SDK, Mercurial
<b>Other</b>	Hadoop, Batch/Bash scripting, Cryptography, Artificial Intelligence, Natural Language Processing, Machine Learning, Cyber-Physical Security, and Software/Hardware Exploitation, Reverse and Anti-Reverse Engineering, Malware Analysis

## RECOGNITIONS AND AWARDS

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Senior Design Outstanding Project Award - Lehigh ECE	2015
Honorable Mention - David and Lorraine Freed Undergraduate Research Symposium	2015
Phi Beta Kappa	2015 - Present
Eta Kappa Nu - IEEE ECE Honor Society	2014 - Present
Tau Beta Pi - Engineering Honor Society	2014 - Present
Graduate Student Advisor	2015 - Present
Dean's List - Lehigh University	2013 - Present
Special Recognition Award - Lockheed Martin	2014
Great Job Award - United Technologies Research Center	2013
MobiLEHIGH Game Development Contest People's Choice Award	2013

## ACTIVITIES

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Lehigh Computer Security Club (President and Founder)	Fall 2013 - Present
TAMID@Lehigh (Investment and Consulting Group)	Fall 2013 - Present
IEEE - Lehigh Chapter	Fall 2012 - Present
Association of Computing Machinery	Fall 2012 - Present
Lehigh Ultimate Frisbee	Fall 2012 - Present

## PUBLICATIONS

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“xDEFENSE: An Extended DEFENSE for mitigating Next Generation Intrusions”, James Lamberti, Devu Manikantan Shila and Vivek Venugopal, 22nd ACM/SIGDA International Symposium on Field-Programmable Gate Arrays (FPGA 2014), Monterey, CA.

“Mathematically Modeling the Growth of Religion”, Casey Cavanaugh, James Lamberti and Andres Salcedo, 10th Annual Undergraduate Research Symposium, Lehigh University. April 24, 2014. (In preparation for Journal of Applied Mathematics)

## PROJECTS

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**SERVANT: Secure Extensible Residential Virtualized Automation NeTwork**  
A home automation system consisting of a router, home security system, smart powerstrips, heating, ventilation and air conditioning (HVAC), and irrigation. SERVANT received multiple nominations and awards and was presented at the kickoff for a multi-million dollar initiative.

**WanderWise: A Turn by Turn Navigation System using Haptic Feedback (PennApps)**  
A iPhone app coupled with a Raspberry Pi, an Arduino and a camera to provide turn by turn directions with path planning and crosswalk detection to transducers mounted on a shirt.

**TopProf: A Smarter way to chose courses using machine learning (HackPrinceton)**  
A web scraper which gathered information about courses and professors to feed a recommendation and scheduling system.