MATTHEW N. GOTTSACKER

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EDUCATION

B.S. in Computer Science, English (with Honors)   Graduation: *May 2019*

Saint Louis University, St. Louis, MO   **GPA: 3.93**

Webster University, Vienna, Austria

CS Courses: Computer Security, Network Programming, Operating Systems, Algorithms, Computer Architecture, Artificial Intelligence, Computer Ethics, Taming Big Data, Programming Languages, Data Structures, Object Oriented Software Design

High School Diploma   *May 2015*

Marquette University High School, Milwaukee, WI

WORK EXPERIENCE

Research Intern   *May 2018 – July 2018*

MIT Lincoln Laboratory, Lexington, MA

Worked with a novel Software-Defined Networking (SDN) application that allows network analysts to write access control policies based on high-level identifiers like usernames that are enforced at the network level. Created a web-based application for the system to visualize the bindings between pairs of network identifiers.

Research Assistant   *September 2017 – Present*

Saint Louis University Computer Science Department, St. Louis, MO

Current research involves working with the Parks College of Engineering, Aviation and Technology to design and implement a novel drone platform in which humans can control a drone or network of drones through intuitive conversation. Topics of interest include natural language processing and distributed autonomous systems.

Web Developer and Technology Consultant   *August 2018 – Present*

Saint Louis University English Department, St. Louis, MO

Work with the Computer Assisted Instruction Lab to design a website (www.slucompasslab.com) to better connect students and instructors with the Lab's technology resources. Ongoing work includes using web-based virtual reality to acquaint users with the technology and redesigning Lab workflow.

Application Development Internship   *May 2017 – August 2017*

State Farm, Bloomington, IL

Created an Enterprise Service Bus (ESB) using MuleSoft to connect a UI to its RESTful API. Created a Java API using Spring Framework.

Technical Writer and Pre-Sales Support   *May 2016 – August 2016*

airSpring Software, Lexington, KY

Edited and generated high-level product documentation around instruction and usage examples of the software. Created product demos for software sales.

PRESENTATIONS

Gottsacker, M., Gomez, S.R., Skowyra, R., and Esposito, F. "Toward Effective Visualization of Network Identifier Bindings in a Software-Defined Network." Poster in ACM Internet Measurement Conference. Boston, MA. 2018.

PAPERS UNDER SUBMISSION

Ventrella, A. V., Esposito, F., **Gottsacker, M.**, Di Paola, D., Grieco, L. A. "APRON: an Architecture of Adaptive Task Planning of Internet of Things in Challenged Edge Networks." Under submission at IEEE International Conference on Communication.

PROJECTS (AVAILABLE ON GITHUB OR BY REQUESTED DEMO)

DigitalNative.space (web, A-Frame)
> Exploration of how humans interact with computers through different experiments. Created a virtual reality experience to study ways that people attend to an entirely digital world.

SafeBot (JavaScript)
> Frontend for Facebook Messenger chatbot that integrates with the SafeTrek API to provide an always-on and intuitive method for contacting emergency services.

St. Louis Parcel Data Aggregation (Bash)
> Collaboration project with a sociology researcher. This set of scripts scrapes webpages served by the St. Louis Government's Open Data project and filters the parcel data relevant to the researcher into a tab-separated file. This data can help produce maps of the city of St. Louis based on total parcel value and how each parcel is used.

SLU+ (Android)
> Augmented reality map of Saint Louis University's campus. SLU+ adds markers on top of buildings and statues around campus and provides interactive information to the user on click.

Sentiment Analysis (Python)
> Python program to use 30,000 tweets marked as positive and negative in the Basque language as training data to classify 3,000 unknown tweets. Most accurate results in class with 73% correct classification.

PROGRAMMING SKILLS

Languages: Python, Bash, Java, JavaScript, C, C++, X86 assembly code, HTML, CSS
Tools and Frameworks: Linux command line, Git, LaTeX, Node.js, D3.js, A-Frame, Spring Framework, Mininet, Floodlight, Zenmap

AWARDS AND HONORS

Knoedler Student Research Grant, *Saint Louis University*
> Won $500 grant to fund travel and conference expenses to present research poster at the ACM Internet Measurement Conference.

Intern Idea Innovation Challenge Winner, *MIT Lincoln Laboratory*
> Developed an idea with four other interns for a system that uses natural language processing techniques to analyze speech patterns in the workplace in order to detect and inform employees of implicit biases. We presented our idea to five executives of MIT LL in a Shark Tank-style pitch.

Deloitte Consulting Challenge Winner, *Deloitte*
> Designed and presented a redevelopment plan for the Midtown neighborhood in St. Louis.

PwC Consulting Challenge Winner, *PricewaterhouseCoopers*
> Designed and presented a case study solution around automation in convenience stores.

GENI Regional Workshop Travel Grant, *University of Oregon*
> Won full grant to learn about the Global Environment for Network Innovations as a research tool.

Computer Science Award, *SLU Department of Mathematics and Computer Science*
> Selected by professors for performance and engagement in CS courses.

Mathematics Award, *SLU Department of Mathematics and Computer Science*
> Selected by professors for performance and engagement in Mathematics courses.

Presidential Scholarship Finalist, *Saint Louis University*
> Scholarship totaling $80,000 over 4 years.

SERVICE AND LEADERSHIP

Coding Mentor, *Cardinal Ritter College Prep High School*
> Volunteer mentor to help teach high school students how to code using Scratch in an after-school program.