

Yohan Beugin

PH.D. STUDENT · COMPUTER SCIENCE AND ENGINEERING

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🏠 <https://yohan.beugin.org>

Research Experience

Systems and Internet Infrastructure Laboratory

University Park, PA, USA

RESEARCH ASSISTANT

Since August 2019

- My research focuses on the security and privacy of computer systems
- Administration of the CPU and GPU clusters of my lab (9 DELL Poweredge R640, 1 DELL Poweredge R740XD, and 12 A100 Nvidia GPU cards)

LIRIS Laboratory, École Centrale de Lyon

Lyon, France

RESEARCH INTERNSHIP

May 2019 - July 2019

- Development of ReViVD, a tool for exploring and filtering large trajectory-based datasets using virtual reality
- Submission and publication of the corresponding paper to IEEE VR 2020

Education

The Pennsylvania State University

University Park, PA, USA

PH.D. IN COMPUTER SCIENCE AND ENGINEERING

Since August 2021

- My research focuses on building more secure, privacy-preserving, and trustworthy systems
- Advisor: Prof. Patrick McDaniel

The Pennsylvania State University

University Park, PA, USA

M.S. IN COMPUTER SCIENCE AND ENGINEERING

2019 - 2021

- Thesis: *Building a Secure and Privacy-Preserving Smart Camera System*
- Advisor: Prof. Patrick McDaniel
- Thesis committee: Prof. Patrick McDaniel, Prof. Gang Tan, Prof. Syed Rafiul Hussain

École Centrale de Lyon

Lyon, France

DIPLÔME D'INGÉNIEUR (M.S. AND B.S. IN ENGINEERING SCIENCES)

2017 - 2021

- French Engineering School
- Multidisciplinary studies: Maths, Physics, Computer Science, Fluid Mechanics, Electrical Engineering, Economics, Management, etc.

Lycée Faidherbe

Lille, France

CLASSE PRÉPARATOIRE AUX GRANDES ÉCOLES (EQUIVALENT TO THE FIRST 2 YEARS OF B.S. IN ENGINEERING SCIENCES)

2015 - 2017

- 2-year intensive program preparing for the national competitive exams for entry to the top French Engineering Schools

Honors & Awards

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|------|--|----------------------------------|
| 2021 | Volunteer Commitment Recognition , For my voluntary work and intensive involvement in the student organizations of my French Engineering School. | École Centrale de Lyon, France |
| 2015 | Placa de Honor de la Orden Civil de Alfonso X El Sabio , My high school's binational section received this reward from the Ministry of Culture and Sport of Spain for our excellent academic results and for our promotion of the Spanish language and culture. | Spanish Embassy in Paris, France |

Publications

CONFERENCE PROCEEDINGS

- **Yohan Beugin**, Quinn Burke, Blaine Hoak, Ryan Sheatsley, Eric Pauley, Gang Tan, Syed Rafiul Hussain, and Patrick McDaniel. "Building a Privacy-Preserving Smart Camera System". In: *Proceedings on Privacy Enhancing Technologies Symposium (PETS)*. July 2022.
- Eric Pauley, Ryan Sheatsley, Blaine Hoak, Quinn Burke, **Yohan Beugin**, and Patrick McDaniel. "Measuring and Mitigating the Risk of IP Reuse on Public Clouds". English. In: *2022 IEEE Symposium on Security and Privacy (SP)*. IEEE Computer Society, Apr. 2022.
- Ahmed Abdou, Ryan Sheatsley, **Yohan Beugin**, Tyler Shipp, and Patrick McDaniel. "HoneyModels: Machine Learning Honey Pots". In: *MILCOM 2021 - 2021 IEEE Military Communications Conference (MILCOM)*. ISSN: 2155-7586. Nov. 2021. doi: [10.1109/MILCOM52596.2021.9652947](https://doi.org/10.1109/MILCOM52596.2021.9652947).
- Ryan Sheatsley, Blaine Hoak, Eric Pauley, **Yohan Beugin**, Michael J. Weisman, and Patrick McDaniel. "On the Robustness of Domain Constraints". In: *Proceedings of the 2021 ACM SIGSAC Conference on Computer and Communications Security*. CCS '21. Association for Computing Machinery, Nov. 2021. ISBN: 978-1-4503-8454-4. doi: [10.1145/3460120.3484570](https://doi.org/10.1145/3460120.3484570).
- François Homps, **Yohan Beugin**, and Romain Vuillemot. "ReViVD: Exploration and Filtering of Trajectories in an Immersive Environment using 3D Shapes". In: *2020 IEEE Conference on Virtual Reality and 3D User Interfaces (VR)*. ISSN: 2642-5254. Mar. 2020. doi: [10.1109/VR46266.2020](https://doi.org/10.1109/VR46266.2020).

00096.

PREPRINTS

- Kyle Domico, Ryan Sheatsley, **Yohan Beugin**, Quinn Burke, and Patrick McDaniel. *A Machine Learning and Computer Vision Approach to Geomagnetic Storm Forecasting*. 2022. arXiv: [2204.05780](https://arxiv.org/abs/2204.05780) [cs.LG].

TALKS

- *Privacy-Preserving Protocols for Smart Camera Systems and Other IoT Devices*. Santa Clara, CA: USENIX Association, June 2022. URL: <https://www.usenix.org/conference/pepr22/presentation/beugin>.

THESIS

- **Yohan Beugin**. "Building a Secure and Privacy-Preserving Smart Camera System". The Pennsylvania State University, May 2021. URL: https://etda.libraries.psu.edu/files/final_submissions/23611.

Professional Activities

TEACHING EXPERIENCE

- Fall 2021 **CMPSC297 - Introduction to C Programming**, TA & Guest Lecturer [Penn State](#)
- Fall 2021 **CMPSC311 - Introduction to Systems Programming**, TA & Guest Lecturer for more than 300 students [Penn State](#)
- Fall 2021 **CSE597 - Emerging Trends in Computer Security**, TA [Penn State](#)

REVIEWER (CONFERENCES)

- 2022 **ACM Conference on Computer and Communications Security (CCS)**, External Reviewer
- 2022 **43rd IEEE Symposium on Security and Privacy**, External Reviewer
- 2022 **31st USENIX Security Symposium**, External Reviewer
- 2021 **ACM Conference on Computer and Communications Security (CCS)**, External Reviewer
- 2021 **30th USENIX Security Symposium**, External Reviewer
- 2021 **Annual International Conference on Mobile Computing and Networking (MobiCom)**, External Reviewer
- 2021 **IEEE 34th Computer Security Foundations Symposium (CSF)**, External Reviewer

REVIEWER (JOURNALS)

- 2020 **PeerJ Computer Science**, Invited Reviewer

INVITED TALKS

- 2021 **Penn State Security Reading Group**, *Building a Privacy-Preserving Smart Camera System*

Skills

COMPUTING SKILLS

Languages	C, C++, C#, Bash, Python, Java, Matlab, \LaTeX , (X)HTML, CSS, JavaScript, SQL, PHP
OS	Windows, GNU/Linux (Ubuntu, Debian)
Softwares	Docker, Git, Apache, Nginx, MariaDB, Gitlab, Virtual Machine Manager, Iptables, Zabbix, etc.
Others	Ionic, Arduino, Wordpress, Android SDK, Unity

LANGUAGE SKILLS

French	Native
English	Fluent
Spanish	Fluent

Extracurricular Activities

ÉCLAIR - IT Student Organization of Centrale Lyon

[Lyon, France](#)

SYSADMIN, DEVELOPER, AND TEAM LEADER

January 2018 - June 2019

- Network administration of the on-campus accommodations, about 800 rooms
- Development, maintenance, and hosting of students and other organizations' websites, about 30 websites
- Maintenance of the network, servers, and of the internal payment system on campus, revenue about €100k per year
- GDPR compliance of the organization, about 3,000 users and 40 services

Challenge Centrale Lyon

Lyon, France

ORGANIZER AND DIGITAL MANAGER

April 2018 - March 2019

- Organizer of the 37th edition of this student-organized sports tournaments, about 3,000 students from 40 different schools
- Development and maintenance of the registration website, the smartphone application, the interactive giant screens display system, and the dispatch algorithm of the participants in the shuttles

Smartphone Application - Challenge Centrale Lyon

Lyon, France

DEVELOPER AND PROJECT MANAGER

September 2017 - June 2018

- Project manager of a team developing a smartphone application for the Challenge Centrale Lyon
- Development and release of the iOS and Android applications in under 3 months to be available to the 3,000 participants

GeoNord - Geocaching Events

France

MAIN ORGANIZER OF THE BIGGEST ANNUAL GEOCACHING EVENTS OF FRANCE

Since 2014

- 5 events organized in 2015, 2016, 2017, 2018, and 2022 gathering 2,000 to 3,000 participants over 4-5 days
- See <https://www.geonordelements.com/>