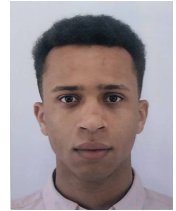# Olivier Bemba

✉ obemba3@gatech.edu   in LinkedIn   🌐 GitHub

Education

Aug. 2024 – PRESENT	**Georgia Institute of Technology, College of Computing** *Atlanta, GA, USA* • PhD in Computer Science • Co-advised by Prof. Cecilia Testart & Prof. Alberto Dainotti
Aug. 2022 – May 2024	**Georgia Institute of Technology, College of Engineering** *Atlanta, GA, USA* • Master of Science in Electrical & Computer Engineering • Co-advised by Prof. Cecilia Testart & Prof. Alberto Dainotti
Sept. 2020 – Jun. 2022	**Telecom SudParis** *Evry, France* • General Engineering Master's Program

Work Experience

Aug. 2024 - PRESENT	**Graduate Research Assistant** - Georgia Tech, Internet Intelligence Lab *Atlanta, GA, USA* • Supervised by Prof. Alberto Dainotti & Prof. Cecilia Testart • Improving Multiple Origin AS prefix classification to better detect BGP hijacking
May 2024 - Aug. 2024	**Research Intern** - French Cybersecurity Agency (ANSSI) *Rennes, France* • Supervised by François Contat • Improving TaBi, a Multiple Origin AS prefix detection system
Jan. 2023 - Jun. 2023	**Research Intern** - NICT *Tokyo, Japan* • Supervised by Dr. Fabien Charmet, Dr. Akira Tanaka & Dr. Takeshi Takahashi • Developing a Web Crawler for Phishtank.com to collect phishing URLs and Phishing Website Screenshots • Adapting Grad-CAM XAI method for Convolutional Neural Network outputing feature vectors
Jun. 2021 - Aug. 2021	**SOC Analyst Intern** - Login Securite *Paris, France* • Supervised by Guillaume Buffier • Alert triage, incident investigation and detection, Incident response, continuous improvement of detection

Teaching Experience

Aug. 2023 - May 2024	**Graduate Teaching Assistant** - Georgia Institute of Technology *Atlanta, GA, USA* • Course: CS6250 - Computer Networks • Taught by Prof. Alberto Dainotti & Prof. Cecilia Testart
Aug. 2022 - Dec. 2022	**Graduate Teaching Assistant** - Georgia Institute of Technology Europe *Metz, France* • Course: ECE2031 - Digital Design Laboratory • Taught by Prof. Simon Gautier

Publications

ACM IMC 2024	Poster: Investigating Autonomous Systems Recurrently Causing Unexplained Multi-Origin AS Conflicts

Selected Projects

Aug. 2023 - May 2024	**Master Thesis: Investigate Autonomous Systems Regularly Involved in Unexplained Multiple Origin AS (MOAS) Events** • Collect MOAS events detected by the Global Routing Intelligence Platform (GRIP) • Investigate Autonomous Systems regularly involved using different data sources including WHOIS and RIPE Stat widgets • Find new signatures of benign behaviors leading to a MOAS event • Publication at ACM Internet Measurement Conference 2024
Aug. 2023 - Dec. 2023	**Improving MOAS Classification with Machine Learning** • Use clustering algorithms such as K-Means to find similarities between unexplained BGP incidents • Exploit these similarities to create new classification rules for MOAS events
Jan. 2022 - Jun. 2022	**Automatic input generation for attack graph generation and remediation selection from network scans** • Automatically produce input for the automatic generation of logical attack graphs (e.g. Mulval) from attack vectors received from an attack scenario simulator (e.g. Nessus) • Automatically generate an XML file from the remedies proposed by the simulator

Skills

Languages	French: native, English: spoken and written
Programming	Python, Java, C, P4
Technologies	Git, Maven, Makefile
Machine Learning	Scikit-learn, TensorFlow, PyTorch
Software Programming	Object-oriented programming, algorithm design, data structures
Databases	MySQL, PostgreSQL, ElasticSearch