

Eric Mugnier

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San Diego, California

EDUCATION

- **UC San Diego** USA, Sept 2020-June 2026(Expected)
 - Ph.D. student in operating systems and security advised by Pr. Yuanyuan Zhou
- **Grandes Ecoles System** France, Sept 2014-Dec 2019
 - M.S in Computer Science, Bordeaux-INP Top 15 French Engineering university, 2017 - 2019: GPA 4.0
 - B.S in Computer Science, Bordeaux-INP 2014 - 2017: GPA 3.2
- **UC San Diego** USA, Sept 2018-April 2019
 - Selected in UC France Exchange Partnership Program, Computer Science

EXPERIENCE

- **Security Software Engineer** Whova San Diego, Oct-July 2019-2020
 - Improved the security of APIs receiving 10M requests per day by automating penetration tests
 - Led the transition from Python2 to Python3 for the entire codebase
 - Trained the engineering team on cybersecurity by giving talks, writing newsletters and organizing quizzes
- **Security Research Summer Intern** LaBRI Research Bordeaux, April-Sept 2019
 - Improved Intel SGX performance by reallocating functions dynamically, proposal paper accepted in the french conference COMPAS 2019
 - Benchmarked Hyperledger blockchains to evaluate POET-SGX consensus algorithm performance
- **Blockchain Research Summer Intern** LaBRI Research Bordeaux, June-August 2018
 - Designed a blockchain solution based on Hyperledger Fabric for P2P rewarding
 - Implemented a POC with MS-Stream.net video player for future papers using ReactJs and NodeJs
 - Researched and created models to optimize rewarding incentivivity in GO
- **Lead Security Software Engineer** LaBRI-ENSEIRB-MATMECA Bordeaux, Feb-June 2018
 - Led a team of 7 fellow graduates with whom I built a video system to provide security and anonymity for the user
 - Implemented a proxy in C to encrypt video data and a NodeJs extension to the DashJs video player
 - Improved proxy integrity by using the trusted execution environment of Intel SGX
- **Cybersecurity and R&D Intern** Expertcom Bordeaux, July-August 2017
 - Studied a defense system called HoneyPot to sell a solution against man-in-the-middle attacks
 - Created a supervision tool in JavaScript to present PRTG API data

RESEARCH EXPERIENCE

- **Creating Symbolic execution based tests for access-control changes checking** Ongoing
 - Customizing the S2E symbolic execution framework to execute exclusively access control code
 - Implementing static analysis algorithm with LLVM to identify which variables should be made symbolic
 - Translating constraints on access from symbolic execution to requests using Z3
- **Detecting risky access-control changes with configuration testing** Oct-June 2020-2021
 - Automatized test creation for access control configuration changes using logs
 - Created sandbox environment with Docker using copy-on-write and firewall rules
 - Designed a trimming method to accelerate the tests by up to 98% by skipping the data-related procedures
 - Tested real-world Docker images from 72 images and found 25 vulnerabilities that have been confirmed

SKILLS

- Php, JavaScript, NodeJS, Python, Shell, Java, C, Go, Git, Docker, MongoDB, MySQL, Rust