

Nestor Catano

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PROFESSIONAL PROFILE

Software Developer, Formal Methods and Cybersecurity Specialist with knowledge of programming, including imperative and Object-Oriented programming with **JAVA** and **C**. Able to assess, understand, and improve code written in **PYTHON** and **PHP**. Experienced **OCAML** functional programmer. **LOGICIAN**, expert in modeling software and hardware systems using discrete mathematics. Formal methods scientist and tool developer. Expert user of formal methods technology and languages such as **EVENT B** and **JML**.

EDUCATION

- University of California, Berkeley, USA** – Master of Information and Cybersecurity **Anticipated 2021**
- RELEVANT COURSEWORK: Cryptography, Beyond the Code, Software Security, Secure Networking, Machine Learning (ML).
- University Paris VII, France** – **PHD** in Computer Science **2004**
- RELEVANT COURSEWORK: Discrete Mathematics, Deductive Proof, Programming, Semantics of Programming Languages
- University Paris VII, Paris, France** – Master of Computer Science Degree **2001**
- RELEVANT COURSEWORK: Mathematical proof of theorems, Semantics of PL, Constraint Programming

SKILLS

Programming Languages: Java, Python, Php, C, C++, Objective Caml, Lisp, Scheme
Security Tools: CoCalc, Jupyter notebooks, Kali Linux (ethical hacking and penetration testing)
Operating Systems: Mac OS X, Linux, Unix, Windows
Data Analysis: Data Science, MatLab, R
Software Engineering: Design Patterns, Architectural Patterns, Software Design

PROFESSIONAL EXPERIENCE

- Researcher**, Center for Cybersecurity, Rochester Institute of Technology, Rochester, USA **2020 – 2021**
Software Engineering professor, Programming, **INNOPOLIS** University, Russia **2015 – 2018**
Models of Software Systems invited professor, Carnegie Mellon University, Pittsburgh, USA **2015 – 2015**
Programming and Software Engineering Lecturer, University of Madeira, Funchal, Portugal **2008 – 2015**

SOFTWARE TOOL DEVELOPMENT

- THE CHASE STATIC ANALYZER OF JML'S ASSIGNABLE CLAUSE** – The tool checks ASSIGNABLE specifications of **JML**-specified Java programs. The tool is available from <https://github.com/ncatanoc/chasetool>
- THE EVENTB2JAVA JAVA CODE GENERATOR FOR EVENT B** – The tool generates Java implementations for abstract and refined **EVENT B** models. It's been implemented as an Eclipse plugin, which is available from <https://github.com/ncatanoc/eventb2java>.
- A CHAT SYSTEM** - Formal software development of a chat application similar to WhatsApp - the project involved writing software requirements in Discrete Mathematics (**EVENT B**), JUnit testing with Eclipse - Android app programming with Android Studio - <https://github.com/ncatanoc/whatsapp>
- ROAD-FIGHTER** - Formal development of a car racing game using Discrete Mathematics and **EVENT B**, and Android Studio - <https://github.com/ncatanoc/carracinggame>
- PHD IN COMPUTER SCIENCE FINAL PROJECT** - Designed and developed a **MEMJAVA** event-spaces **OCAML** tool that calculates the memory interaction of a running concurrent Java program; the tool is available from <https://github.com/ncatanoc/memjava>