

Eleftherios "Lef" IOANNIDIS

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EDUCATION

CURRENT PHD IN COMPUTER SCIENCE, *University of Pennsylvania*, Philadelphia, PA
Research: *Research in formal security protocols and zero-knowledge proofs.*
Second-year PhD, using the Coq proof-assistant for computer-assisted cryptography.
Distributed systems language formalization and implementation. Graduation in 2025.
Advisors: Sebastian ANGEL, Steve ZDANCEWIC

JAN '19 MASTER'S IN ENGINEERING, *MIT*, Cambridge, MA
Major: COMPUTER SCIENCE.
Thesis: *Extracting and optimizing low-level bytecode from high-level verified Coq.*
Advisor: Frans KAASHOEK, Nikolai ZELDOVICH, Adam CHLIPALA, CSAIL

JUN '15 BACHELOR'S IN COMPUTER SCIENCE, *MIT*, Cambridge, MA
Major: ELECTRICAL ENGINEERING AND COMPUTER SCIENCE
Thesis: *Parallel optimizations for the Halide DSL language.*
Advisor: Prof. Saman AMARASINGHE, CSAIL

RESEARCH

OCT 2021 Efficient Representation of Numerical Optimization Problems for SNARKs,
with Sebastian Angel, Andrew J. Blumberg and Jess Woods.
(under review).
MAR 2020 Scala eDSLs for domain-specific business logic,
Northeast Scala Symposium (NEScala 2020), Brooklyn, NY (online).
APR 2019 MCQC: Extracting and optimizing formally verified code,
NASA Formal Methods Symposium (NFM 2019), Houston, TX.

WORK EXPERIENCE

MAR '19 - SEP '20 Investment Engineer at BRIDGEWATER Associates, Westport, CT
Developed trading algorithms, risk-controls, designed and implemented domain-specific programming
languages for financial data science embedded in Scala.
MAY '16 - OCT '17 Software Architect at UNIFYID, San Francisco, CA
Designed and implemented the back-end for implicit authentication, including end-to-end encryption
protocols, load-balancing, analytics, as well as distributed machine-learning infrastructure.
SEP '15 - MAY '16 Security Engineer at APPLE, Cupertino, CA
FairPlay and DRM group
Application Security, worked with the LLVM Compiler in reverse engineering mitigation.

SOFTWARE ENGINEERING

Skills: Programming Languages, Formal Verification, Security, Operating Systems,
Distributed Systems, Compilers, High Performance Engineering.
Languages: Haskell, Coq, OCaml, Scala, C/C++, Go, Javascript.
Software: Linux, Docker, Kubernetes, SQL, MongoDB, GIT, LLVM.