

Samuel JUDSON

CONTACT

EMAIL. samuel.judson@yale.edu or sam@sjudson.com
WEBSITE. sjudson.com
ADDRESS. #211 Arthur K. Watson Hall, 51 Prospect St., New Haven, CT 06511
PHONE. +1 301.802.0248

ACADEMIC HISTORY

- EXP. 2024 Doctor of Philosophy in COMPUTER SCIENCE, **Yale University**
Dissertation. (Private) Formal Methods for Rigorously Governable Systems
Advisor. Ruzica PISKAC
- en passant* Master of Philosophy in COMPUTER SCIENCE, **Yale University**
Master of Science in COMPUTER SCIENCE, **Yale University**
Honors in every graded course, equivalent to GPA. 4.0/4.0
- MAY 2016 Bachelor of the Arts in COMPUTER SCIENCE & MATHEMATICS, **Marlboro College**
awarded with *Highest Honors* Plan GPA. 3.96/4.0 | Overall GPA. 3.89/4.0
Subfield. Cryptography
Advisors. Jim MAHONEY & Matt OLLIS
Plan of Concentration. Authentication: Techniques and Theory

PROFESSIONAL EXPERIENCE

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| 2023 TO ONGOING | Independent Consultant
Provided expert advice and analysis for a prominent venture capital firm. |
| JUL 2016 TO AUG 2018 | Application Security Engineer at Auth0
Responsible for correct and secure implementation of standardized authorization and authentication protocols. Provided expert advice and analysis of the design and security of internal and customer architectures. Consulted on the design of security protocols extending IETF standards. Undertook general security, cryptographic, and software engineering tasks across the company's codebase. |
| SUMMER 2014 | Software Development Intern at Eqsquest |
| SEP 2013 TO MAY 2014 | Software Developer at Trendpo |
| SUMMER 2013 | Software Development Intern at Trendpo |

PUBLICATIONS, PREPRINTS, & THESES

(*equal contribution)

- Ou: Automating the Parallelization of Zero-Knowledge Protocols
Yuyang Sang*, Ning Luo*, Samuel Judson, Ben Chaimberg, Timos Antonopoulos,
Xiao Wang, Ruzica Piskac, and Zhong Shao
CCS, 2023.
also Cryptology ePrint Archive Report 2023/657
- 'Put the Car on the Stand': SMT-based Oracles for Investigating Decisions
Samuel Judson, Matt Elacqua, Filip Cano Córdoba, Timos Antonopoulos, Bettina Könighofer,
Scott Shapiro, and Ruzica Piskac
Under Submission.
also arXiv.2305.05731, 2023

3. Analyzing Intentional Behavior in Autonomous Agents Under Uncertainty
Filip Cano Córdoba, Samuel Judson, Timos Antonopoulos, Katrine Bjørner, Nicholas Shoemaker,
Scott Shapiro, Ruzica Piskac, and Bettina Könighofer
IJCAI, 2023.
4. On Heuristic Models, Assumptions, and Parameters
Samuel Judson and Joan Feigenbaum
Under Submission.
also arXiv.2201.07413, 2022
5. ppSAT: Towards Two-Party Private SAT Solving
Ning Luo, Samuel Judson, Timos Antonopoulos, Ruzica Piskac, and Xiao Wang
USENIX Security, 2022.
also Cryptology ePrint Archive Report 2021/1584
6. Privacy Preserving CTL Model Checking through Oblivious Graph Algorithms
Samuel Judson, Ning Luo, Timos Antonopoulos, and Ruzica Piskac
WPES@CCS, 2020.
7. Authentication: Techniques and Theory
Samuel Judson
Marlboro College Plan of Concentration (Undergraduate Thesis), 2016.

TEACHING & ADVISING

YALE UNIVERSITY

Teaching Fellow for CPSC 468/568, F22.

Course. COMPUTATIONAL COMPLEXITY

Instructor. Dylan MCKAY

Advisor for CPSC 490 (Undergraduate Senior Research Project), S22.

Student. Jeremy Weiss

Title. DETERMINISTIC START SYNTHESIS

Teaching Fellow for CPSC 458/558, S22 & S23.

Course. AUTOMATED DECISION MAKING

Instructor. Stephen SLADE

Teaching Fellow for CPSC 474/574, F19 & F20.

Course. COMPUTATIONAL INTELLIGENCE FOR GAMES

Instructor. Jim GLENN

Teaching Fellow for CPSC 310, S19 & S20.

Course. TECHNOLOGY, POWER, AND SECURITY: POLITICAL CHALLENGES OF THE COMPUTER AGE

Instructors. Joan FEIGENBAUM & Steven WILKINSON

MARLBORO COLLEGE

Computer Science Tutor, F13 TO S15.

Supervisor. Jim MAHONEY

ACADEMIC AWARDS, SERVICE, TALKS, & OTHER ACTIVITIES

(*in reverse chronological order)

AWARDS

- Recipient, National Science Defense & Engineering (NDSEG) Graduate Fellowship, 2020.
- Degree awarded with *Highest Honors*, Marlboro College, 2016.
- Recipient, Dean’s Merit Scholarship, Marlboro College, all eligible semesters.

SERVICE

- Artifact Evaluation Committee: CAV 2022, 2023.
- Subreviewer: FMCAD 2020.

TALKS & POSTERS

- (Private) Formal Methods for Rigorously Governable Systems
poster at National Defense Science and Engineering Graduate (NDSEG) Fellowship Conference, 2022.
- Heuristic Models, Assumptions, and Parameters
poster at DIMACS Workshop on the Co-Development of Computer Science and Law, 2020.

OTHER ACTIVITIES

- Participant at the Schloss Dagstuhl Seminar, 2023.
Program. Accountable Software Systems
- Student Review Committee for the Ackermann Award for Teaching and Mentoring, 2021.
at the Yale School of Engineering and Applied Sciences (SEAS)
- Student Participant at the Simons Institute for the Theory of Computing, 2021.
Program. Theoretical Foundations of Computer Systems
- Participant at the VMCAI Winter School, 2020.