

# Erik Buchholz

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\* 12th February 1995

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## Profile

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- Researching privacy-preserving data publication with a focus on location trajectory data
- Received two awards for master's thesis on privacy-preserving data exchange published at ACSAC'20
- Completed both bachelor's and master's degrees with outstanding grades and special honours
- Co-authored three publications, two published at top security conferences (ACSAC'20 & ASIACCS'20)

## Education

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### PHD CANDIDATE | UNIVERSITY OF NEW SOUTH WALES SYDNEY SINCE 2021

- Cyber Security Cooperative Research Centre (CSCRC) – Scholarship Recipient
- **Focus:** Privacy-Enhancing Technologies (PETs) – Trajectory Privacy
- Supervisors: [Prof. Salil S. Kanhere](#) and [Dr. Surya Nepal](#)

### MASTER OF COMPUTER SCIENCE WITH HONOURS | RWTH AACHEN 2017 - 2020

- Final Grade: 1.0 (*German Grading System*)
- **Study Focus:** IT Security, Cryptography, Internet Technology, Seminar on App Fingerprinting
- Master's Thesis: Privacy-Preserving Exchange of Process Parameters

### YEAR ABROAD | UNIVERSITY OF TECHNOLOGY SYDNEY 2017 - 2018

- Completed all 6 subjects with high distinction (95% or above)

### BACHELOR OF COMPUTER SCIENCE WITH HONOURS | RWTH AACHEN 2013 - 2017

- Final Grade: 1.1 (*German Grading System*)
- **Study Focus:** Advanced & Mobile Internet Technology, Seminar on Privacy
- Bachelor's Thesis: A User-controlled Data Market for Privacy-preserving Data Analyses

### ABITUR | ALBERT-SCHWEITZER GYMNASIUM WOLFSBURG 2005 - 2013

- Final Grade: 1.0 (*German Grading System*) – Best High School Graduate in Wolfsburg

## Publications: [Google Scholar](#)

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- **Collaboration is not Evil: A Systematic Look at Security Research for Industrial Use.** – 2<sup>ND</sup> Author
  - Discusses a methodology for cybersecurity research in the industrial context
  - Utilizes my master's thesis as one major case study for the proposed process cycle
- **Privacy-Preserving Production Process Parameter Exchange.** – 2<sup>ND</sup> Author
  - Based on my master's thesis: Data exchange protecting both clients' and data providers' privacy
  - Motivated by a real-world use case from the injection moulding industry
- **Utilizing Public Blockchains for the Sybil-Resistant Bootstrapping of Distributed Anonymity Services.**
  - 3<sup>RD</sup> Author: Partly implemented the design, evaluated the implementation & co-authored paper
  - System to write bootstrapping information for anonymity services (e.g., Tor) into Bitcoin blockchain

## Practical Experiences

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### SCIENCE ASSISTANT | RWTH AACHEN

APRIL 2019 - OCTOBER 2019

- Evaluated software projects for publication
- Assisted in writing scientific papers: led to ASIACCS'20 publication

### PYTHON TUTOR | UNIVERSITY OF TECHNOLOGY SYDNEY

AUGUST - DECEMBER 2017

- Established a new course for students of all faculties including the creation of materials and presentation

### TUTOR | RWTH AACHEN

2015 - 2018

- Summer Semester 2018: Operating Systems and System Software
- Winter Semester 2016/17: Introduction to Management Science (IT for business students)
- Summer Semester 2016: Operating Systems and System Software
- Winter Semester 2015/16: Computability and Complexity
- Summer Semester 2015: Operating Systems and System Software

## Awards

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- **CSCRC PhD Scholarship:** *May 2021 - May 2024*
- **University International Postgraduate Award (UIPA) Scholarship:** *May 2021 - November 2024*
- **Vöcking Master Award:** *2020* – Outstanding master's thesis
- **FOLKS Award for Best Master's Thesis:** *2020*
- **Dean's List of RWTH Aachen (4x)** (Top 5% of CS students): *2013/14, 2014/15, 2017/18, and 2019/20*
- **German Education Fund (3x):** *Study years 2015/2016, 2017/2018, and 2018/2019*
- **Annual Scholarship of the DAAD** for an exchange year in Sydney, Australia: *2017*
- **Seminar Award of FOLKS:** *2016*
- **Best High School Graduate in Wolfsburg:** *2013*

## Leadership & Qualifications

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- 2022 | **Conference Student Workshop Committee** | IFCYBER – Organized Thesis Competition
- 2021 | **Deep Learning Specialization** | DeepLearning.AI
- 2021 | **Personalized English Learning Enhancement** | UNSW – 94% Grade
- 2019 | **PN Level 1 Exercise Nutrition Certification** | Precision Nutrition
- 2017 | **BUiLD Leadership Program** | UTS
- 2017 | **Toastmasters Speechcraft** | Communication and Leadership Seminar

### PROGRAMMING

**Python:** ●●●●●  
**Java:** ●●●●●  
**Keras:** ●●●●●

### LANGUAGES

**English:** High Proficiency  
**German:** Native Speaker  
**Spanish:** Level B2

## Personal Interests

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- **CrossFit**
- **Nutrition**
- **Running (Half-)Marathon**
- **Salsa**
- **Spanish**
- **Travel**

## Referees: Contact details available upon request

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- **Prof. Salil S. Kanhere, Dr. Surya:** PhD Supervisors
- **Jan Pennekamp:** Master's Thesis Supervisor
- **Roman Matzutt:** Bachelor's Thesis Supervisor