JELLE VOS

Delft University of Technology

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EXPERIENCE

Security Engineer
Apple

📅 Feb 2024 – now 📍 Remote

- Continuing my internship work on post-quantum cryptography
- Working as a part-time contractor next to my PhD

PhD Student
Delft University of Technology

📅 Jul 2021 – Now 📍 Delft, Netherlands

- Doing research in homomorphic encryption-based multi-party computation, optimizing arithmetic circuits
- Teaching about fully-homomorphic encryption

Cryptographic Engineering Intern
Apple

📅 May 2023 – Sep 2023 📍 Cupertino, United States

- Designing a post-quantum alternative for a popular cryptographic protocol
- Presenting research to higher management

Teaching Assistant
Delft University of Technology

📅 Aug 2020 – Jan 2021 📍 Delft, Netherlands

Helping MSc students with cryptography & machine learning

Software Development Intern
ING Group

📅 Apr 2018 – Jul 2018 📍 Amsterdam, Netherlands

Building a real-time collaborative tool using Polymer in team of students, ING has continued to develop it

HIGHLIGHTED RESEARCH

SoK: Collusion-resistant Multi-party Private Set Intersections in the Semi-honest Model

Conference paper, published at IEEE S&P 2024

Oraqle: A Depth-Aware Secure Computation Compiler

Workshop paper, published at WAHC 2024

PROGRAMMING LANGUAGES

Rust   Python   C/C++

EDUCATION

MSc Computer Science: Cyber Security
Delft University of Technology

📅 Sep 2019 – Jun 2021   Graduated Cum Laude

BSc Computer Science & Engineering
Delft University of Technology

📅 Sep 2015 – Jan 2019   Graduated with Honours

Bilingual VWO - Gymnasium
Grotius College Delft

📅 Aug 2009 – Jul 2015

EXTRACURRICULAR

Board Member & Volunteer
DWH & Outsite

📅 Feb 2016 – Present

- Committee work, promoting DWH & Outsite, Delft's LGBT+ associations
- Chaired Outsite, LGBT+ youth association
- Board member at DWH

Software Developer
LOBSTER

📅 May 2018 – Nov 2020

- Building a low-cost autonomous deep sea exploration robot
- Working in a multidisciplinary team
- Developing control & navigation software in Python

TOPICS

Post-quantum cryptography

- Worked on PQC at Apple
- Studying post-quantum secure computation
- Advised Veritasium about PQC video

Homomorphic encryption

- Created the open-source Oraqle compiler
- Introduced depth-aware arithmetization
- Improved techniques for ciphertext permutations

Private set operations

- Won 2nd place in the U.S. PETS prize challenge
- Studied the limitations of Bloom filter-based PSI
- Open-sourced implementations of multi-party PSI