# **Lucas Lange**

RESEARCHER · PHD STUDENT

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# **Experience**

# Leipzig University & ScaDS.AI Dresden/Leipzig

Leipzig, Germany

RESEARCHER (WISSENSCHAFTLICHER MITARBEITER)

NESEARCHER (WISSENSCHAFTLICHER WITTARDETTER)

Mar. 2022 - Present

- Research in "Privacy-Preserving Data Analysis (Machine Learning)" as a PhD student.
- Conducting and supervising computer science courses at Leipzig University, especially in the field of databases and data science.
- ScaDS.Al affiliation within the scope of my position at Leipzig University.

# **Australian National University (ANU)**

Canberra, Australia

VISITING RESEARCHER

Feb. 2024 & Feb. 2025

- DAAD travel grant for project-related personal exchange with ANU in 2024 and 2025.
- Project: "Data integration and federated learning for individual-privacy applications", Project-ID: 57701258.

#### **InfAI - Institute for Applied Informatics**

Leipzig, Germany

RESEARCH ASSISTANT (WHK)

Oct. 2019 - Feb. 2020

· Working on the ShapBiRd project, an effort to create a linked data infrastructure and workflow for the institute's bibliography.

eccenca GmbH

Leipzig, Germany

SOFTWARE DEVELOPER

Jun. 2018 - Apr. 2019

· Specification and implementation of a visual editor for linked data knowledge graphs (Bachelor Thesis).

#### InfAI - Institute for Applied Informatics

Leipzig, Germany

STUDENT ASSISTANT (SHK)

Jul. 2017 - Apr. 2018

· Assisting in the open-source SlideWiki EU Project and tutoring an agile software engineering student project at Leipzig University

## **Education**

# **Leipzig University**

Leipzig, Germany

Ph.D. IN COMPUTER SCIENCE

Mar. 2022 - Present

• Topic: Privacy-Preserving Data Analysis (Machine Learning).

#### **Leipzig University**

Leipzig, Germany

M.Sc. IN COMPUTER SCIENCE

Apr. 2019 - Jan. 2022

• Thesis: Privacy-Preserving Detection of COVID-19 in X-Ray Images (at ScaDS.AI Dresden/Leipzig).

#### Université Grenoble Alpes (UGA)

Grenoble, France

ERASMUS+—M.Sc. IN COMPUTER SCIENCE

Sep. 2020 - Jun. 2021

• Courses in Machine Learning and Robotics.

# **Leipzig University**

Leipzig, Germany

B.Sc. IN COMPUTER SCIENCE

Oct. 2015 - Mar. 2019

• Thesis: Visual Editor Based on SHACL Shapes (at eccenca GmbH).

# **Publications**

### Generating Synthetic Health Sensor Data for Privacy-Preserving Wearable Stress Detection

May 2024

LUCAS LANGE AND NILS WENZLITSCHKE AND ERHARD RAHM, IN: SENSORS 2024, 24(10), 3052

% doi.org/10.3390/s24103052

github.com/luckyos-code/Privacy-Preserving-Smartwatch-Health-Data-Generation-Using-DP-GANs

# **Privacy-Preserving Sentiment Analysis on Twitter**

Sep. 2023

FELIX VOGEL AND **LUCAS LANGE**, IN: SKILL 2023

## **Privacy-Preserving Stress Detection Using Smartwatch Health Data**

Sep. 2023

Lucas Lange, Borislav Degenkolb and Erhard Rahm, In: 4. Interdisciplinary Privacy & Security at Large Workshop, INFORMATIK 2023

% doi.org/10.18420/inf2023\_66

github.com/BDegenkolb/Privacy-Preserving-Stress-Transformer

#### Privacy at Risk: Exploiting Similarities in Health Data for Identity Inference

Aug. 2023

Lucas Lange and Tobias Schreieder and Victor Christen and Erhard Rahm, In: arXiv preprint

% arxiv.org/abs/2308.08310

github.com/tobiasschreieder/smartwatch-dtw-attack

## Privacy in Practice: Private COVID-19 Detection in X-Ray Images

Jul. 202

LUCAS LANGE, MAJA SCHNEIDER, PETER CHRISTEN AND ERHARD RAHM, IN: 20TH INTERNATIONAL CONFERENCE ON SECURITY AND CRYPTOGRAPHY (SECRYPT 2023)

# Privacy in Practice: Private COVID-19 Detection in X-Ray Images (Extended Version)

Nov. 2022

SentArg: A Hybrid Doc2Vec/DPH Model with Sentiment Analysis Refinement

Sep. 2020

CHRISTIAN STAUDTE AND **LUCAS LANGE**, IN: CLEF 2020 WORKING NOTES