Lucas Lange

Salomonstraße 18B, 04103 Leipzig, Germany

(+49) 173-9664700 | lucas.lange@arcor.de | lucaslange.de | luckyos-code | lucaslange

Summary

I am a computer scientist passionate about artificial intelligence, machine learning, and privacy. At Leipzig University, I am currently pursuing a Ph.D. in computer science. An environment of diverse knowledge exchange is essential when researching a subject. I like to adopt an agile prototyping approach to test hypotheses and make educated decisions quickly.

Experience

Leipzig University
Leipzig, Germany

RESEARCH ASSISTANT (WISSENSCHAFTLICHER MITARBEITER)
Mar. 2022 - present

- Ph.D. research in "Privacy-Preserving Data Analysis" with a focus on machine learning.
- Conducting/supervising computer science courses at Leipzig University, especially in the field of databases (tutorials, labs, seminars, lectures).

InfAI - Institute for Applied Informatics
Leipzig, Germany

RESEARCH ASSISTANT (WHK)
Oct. 2019 - Feb. 2020

- Working individually on the ShapBiRd project, an effort to create a linked data infrastructure and workflow for the institute's bibliography. — github.com/AKSW/shapbird
- Tools: Docker / Compose, RDF, SHACL, Webhooks, and Python

eccenca GmbH
Leipzig, Germany

SOFTWARE DEVELOPER
Jun. 2018 - Apr. 2019

- Visual Editor Based on SHACL Shapes (Bachelor Thesis).
- Specification and implementation of a visual editor for linked data knowledge graphs - furthermore, adjustable to specific domains by utilizing SHACL shape descriptions.
- Tools: React.js, SHACL, and SPARQL

InfAI - Institute for Applied Informatics
Leipzig, Germany

STUDENT ASSISTANT (SHK)
Jul. 2017 – Apr. 2018

- Assisted in the open-source SlideWiki EU Project. — github.com/slidewiki
- Lead an agile software engineering student project at Leipzig University. — github.com/AKSW/Auto-Slides
- Tutored an agile software engineering student project at Leipzig University.
- Tools: JavaScript, Java, SPARQL, RDF, and Agile Project Management

Education

Leipzig University
Leipzig, Germany

PH.D. IN COMPUTER SCIENCE
Mar. 2022 - present

- Topic: Privacy-Preserving Data Analysis (Focus on 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.

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.

Projects

DP-X-COVID

 GITHUB.COM/LUCKYOS-CODE/DP-X-COVID

- Privacy-Preserving Detection of COVID-19 in X-Ray Images (Master Thesis).
- The goal of this work was to implement a private image classifier for COVID-19 X-ray images.
  The model was trained by applying privacy-preserving machine learning procedures to produce a private model and thus prevent attacks from causing data leakage.
- Tools: Deep Learning (CNNs), Differential Privacy (DP-SGD, PATE), Tensorflow/Keras, Python, Jupyter, and Google Colab

X-COVID

 GITHUB.COM/LUCKYOS-CODE/X-COVID

- Detection of COVID-19 in X-ray images.
- Binary (COVID-19 vs. normal): 97.8%, Multiclass (COVID-19 vs. Pneumonia vs. Normal): 94.1%
- Tools: Deep Learning (CNNs), Tensorflow/Keras, Python, Jupyter, and Google Colab

SentArg

 GITHUB.COM/LUCKYOS-CODE/ArgU

- Argument retrieval model for Touché @ CLEF 2020 - 1st Shared Task on Argument Retrieval.
- The task was to retrieve arguments from the provided dataset of the focused crawl with content from online debate portals for the 50 given topics, covering a wide range of controversial issues.
- Tools: NLP, Sentiment Analysis, Doc2Vec/Word2Vec, Python, Docker, and Google Cloud

Publications

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

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

 ceur-ws.org/Vol-2696/paper_191.pdf

Further Education

2021	**Fundamentals of Neuroscience Part 1**, HarvardX	*edX*
2020	**Deep Learning Specialization**, deeplearning.ai	*Coursera*
2020	**Machine Learning**, Stanford Online	*Coursera*
2020	**Blockchain A-Z™: Learn How To Build Your First Blockchain**, SuperDataScience	*Udemy*
2020	**TRIZ User (Level 1)**, Target Invention	*TRIZ-Trainer*

Personal

Languages	German Native, English B2/C1, and French B1/B2
Hobbies	Fitness, Reading, Hiking, Travel, and Cinema
Interests	Artificial Intelligence & Machine Learning, Digital Ethics & Privacy, Environment, Data Science, and Medicine