

# Claas A. Voelcker

PHD STUDENT IN COMPUTER SCIENCE

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## Education

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### University of Toronto

Toronto, Canada

PHD IN COMPUTER SCIENCE

since 09/2020

- thesis topic: task aware models for reinforcement learning
- academic supervisors: Prof. Animesh Garg, Prof. Amir-massoud Farahmand

### Technische Universität Darmstadt

Darmstadt, Germany

M.Sc. IN COMPUTER SCIENCE

04/2018 - 07/2020

- thesis topic: Object segmentation and detection for reinforcement learning applications
- thesis supervisors: Karl Stelzner, Prof. Kristian Kersting
- notable courses: "Deep generative models", "Deep Learning: Methods & Architectures", "Reinforcement Learning"
- graduated with honors, GPA: 3.9

### Technische Universität Darmstadt

Darmstadt, Germany

B.Sc. IN COMPUTER SCIENCE

10/2014 - 04/2018

- thesis topic: DeepNotebooks – Interactive data analysis using Sum-Product Networks
- thesis supervisor: Prof. Kristian Kersting
- notable courses: "Introduction to AI", "Statistical Machine Learning", "Data Science Practical Lab"
- graduated with honors, GPA 3.75

## Jobs

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### University of Toronto, Vector Institute

Darmstadt, Germany

GRADUATE RESEARCH ASSISTANT

since 09/20

- Main project: probabilistic models and uncertainty quantification in task aware and meta reinforcement learning

### TU Darmstadt - Chair of Artificial Intelligence and Machine Learning

Darmstadt, Germany

RESEARCH ASSISTANT

10/18 - 07/2020

- developer of the DeepNotebook framework for interactive data exploration
- data analysis on health care data to predict heart attack risk in ICU patients (in cooperation with UKE Hamburg)

### TU Darmstadt - Department of Computer Science

Darmstadt, Germany

TEACHING ASSISTANT

10/15 - 10/18

- tutor for the courses "Introduction to computer science", "Parallel programming", "Propositional and first-order logic"
- supervision and coaching of student software development teams
- graduate teaching assistant for "Statistical machine learning"

### Security Research Labs

Berlin, Germany

RESEARCH INTERNSHIP

08/16

- implementation of a remote execution API for automatic pen testing
- data analysis on large scale phishing campaign data to determine staff training strategies

### Deutsche Bank AG

Eschborn, Germany

JUNIOR PROJECT MANAGEMENT CONSULTANT

01/15 - 03/16

- technical implementation and supervision of the "Roadshow Cyber Security Awareness" campaign presented in Berlin, London, Singapore and New York

## Writing

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### Value Gradient weighted Model-Based Reinforcement Learning

*under review*

VOELCKER, C., LIAO, V., GARG, A., & FARAHMAND, A.

### Structured Object-Aware Physics Prediction for Video Modeling and Planning

*ICLR 2020*

KOSSEN, J., STELZNER, K., HUSSING, M., VOELCKER, C., & KERSTING, K.

### DeepNotebooks: Deep Probabilistic Models Construct PythonNotebooks for Reporting Datasets

*ECML/PKDD - ADS workshop 2019*

VOELCKER, C., MOLINA, A., NEUMANN, J., WESTERMANN, D., & KERSTING, K.

## Talks

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### Object-segmentation for model-based reinforcement learning

*University of Edinburgh - Dynamics Modelling Group Seminar*

SPEAKER

- invited talk on STOVE and object aware dynamics model for reinforcement learning

### DeepNotebooks

*ECML/PKDD - ADS workshop 2019*

SPEAKER

- contributed talk on the DeepNotebooks framework for exploratory data analysis

### Lecture on Variational Autoencoders

*DGM 2019, TU Darmstadt*

GUEST LECTURER

- invited guest lecturer during the summer term 2019 iteration of the Deep Generative Models lecture

### What is "fair"? - Tackling challenges in modern AI

*MRMCD 2018, Darmstadt*

SPEAKER

- contributed talk on fairness and biases in AI at the Meta Rhein Main Chaos Days

## Review

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### Conference reviewer

- Advances in Neural System Processing 2021
- Robotics: System and Science 2021

## Service

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### Queer in AI

ORGANIZER

*since 03/2020*

- Organizer for the community of queer researchers in AI/ML related fields
- Contributions include: ICLR 2020 social organization and ICLR 2020 Queer in AI stipends organization
- Leading organizer of the 2021 Queer in AI NeurIPS workshop

### Conference of Aspiring Students in Tech – Rhein-Main

*Darmstadt, Germany*

ORGANIZING COMMITTEE

*06/18 - 03/19*

- part of the organizing committee for the first CASTrm, a conference targeted at students aspiring to become researchers
- helped to write prize winning concept
- in charge of coordination for the program and the diversity team

### TU Darmstadt

*Darmstadt, Germany*

UNIVERSITY SENATE COMMITTEE ON STUDIES AND TEACHING

*10/16 - 10/18*

- student representative on the board for studies and teaching
- responsible for reviewing the study plans of the departments

## Department of Computer Science, TU Darmstadt

BOARD OF THE FACULTY OF COMPUTER SCIENCE

- elected student member of the faculty board
- member of several professorial appointment commissions

*Darmstadt, Germany*

*10/2016 - 10/17, 10/18 - 10/19*

## Awards

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### **Inclusion@RSS Fellow 2021**

INCLUSION@RSS

2021

### **Vector Institute Research Grant**

VECTOR INSTITUTE, TORONTO

2021

### **Deutschlandstipendium**

AWARDED BY TU DARMSTADT

*10/15 - 10/19*

### **Award for excellence in mathematics in the Abitur**

AWARDED BY THE GERMAN MATHEMATICAL ASSOCIATION

*07/13*