

Reto Achermann

SYSTEMS · RESEARCHER

Technical University of Munich, Germany

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Summary

I am an Assistant Professor W-2 for Resilient Computing Systems at the Technical University of Munich. My research focuses on making operating systems more secure, faster, and easier to develop by combining programming languages, formal methods, software synthesis, and hardware models. I also teach the future system software engineers about operating systems and computer architecture.

Education

Doctor of Science ETH Zurich, ETH Zurich

November 2014–April 2020

Zurich, Switzerland

- Advisor: Prof. Timothy Roscoe
- Thesis Title: On Memory Addressing [pdf]

Master of Science ETH in Computer Science, ETH Zurich

September 2013–October 2014

Zurich, Switzerland

- Advisor: Prof. Timothy Roscoe
- Specialization: Distributed Systems. Grade: 5.8 / 6.0 (with distinction)
- Thesis Title: Message passing and bulk transport on heterogeneous multiprocessors [pdf]

Bachelor of Science ETH in Computer Science, ETH Zurich

September 2009–September 2013

Zurich, Switzerland

- Thesis Title: Barrelfish USB Subsystem [pdf]

Officer School Swiss Armed Forces, Swiss Government

June 2008–September 2009

Switzerland

- Leadership education, management, and conflict management.

Professional Experience

Assistant Professor W-2

March 2026–present

TECHNICAL UNIVERSITY OF MUNICH – RESILIENT COMPUTING SYSTEMS

Munich, Germany

Assistant Professor

July 2024–February 2026

UNIVERSITY OF BRITISH COLUMBIA – SYSTOPIA LAB

Vancouver (BC), Canada

Postdoctoral Research Fellow

December 2020–June 2024

UNIVERSITY OF BRITISH COLUMBIA – SYSTOPIA LAB

Vancouver (BC), Canada

- Research in the intersection of operating systems, verification and software synthesis.
- Mentored several students on their research projects and co-advised two students on their Honours thesis.
- Teaching: Lecturer for CS508 - Graduate Operating Systems and CS436A - Operating Systems Design and Implementation

Research Assistant

November 2014–November 2020

ETH ZURICH – SYSTEMS GROUP

Zurich, Switzerland

- Research in operating systems and hardware specification
- Mentoring multiple students in their Master's and Bachelor's thesis projects.
- Teaching: Leading tutorials / labs as a teaching assistant for multiple courses.

Intern VMware Research Group

June 2018–September 2018

VMWARE, INC. – VMWARE RESEARCH GROUP

Palo Alto (CA), USA

- Project: Mitosis: Transparently Self-Replicating Page-Tables for Large-Memory Machines.
- Design and implementation of page-table replication in the Linux kernel.

Intern Systems Software

September 2015–December 2015

HEWLETT-PACKARD LABS – SYSTEMS SOFTWARE RESEARCH GROUP

Palo Alto (CA), USA

- Project: Consensus protocols and capabilities for the Machine.

Teaching Experience

TECHNICAL UNIVERSITY OF MUNICH

Lecturer	Operating Systems Design and Implementation (Practical Course) (IN0012, IN2106)	2026
	Computer Systems Seminar (IN0014, IN2107, IN45166)	2026
	Verification in Systems Seminar (IN0014, IN2107, IN45166)	2026

UNIVERSITY OF BRITISH COLUMBIA

Lecturer	Operating Systems Design and Implementation (CPSC 436A)	2025, 2022, 2021
	Graduate Operating Systems (CPSC 508)	2024, 2023, 2020
	Computer Hardware and Operating Systems (CPSC 313)	2024

ETH ZURICH

Teaching Assistant	Advanced Operating Systems (263-3800-00L)	2020, 2019, 2017
	Application-Oriented Programming (252-0840-02L)	2019, 2018
	Systems Programming and Computer Architecture (252-0061-00L)	2019, 2018, 2017, 2016, 2014, 2013
	Introductory Programming in MATLAB (252-0840-01L)	2017, 2016
	Parallel Programming (252-0024-00L)	2015
	Data Modelling and Databases (252-0063-00L)	2014
	Operating Systems and Networks (252-0062-00L)	2013

Peer-Reviewed Publications

JOURNALS

Agentic Workflows are Serverless Applications, so deploy them that way!	<i>SIGOPS Op. Syst. Rev.</i>
IAN DOUGHERTY, NATALIE LAMBERT, JOSHUA WANG, ETHAN XU, RETO ACHERMANN AND ALEXANDRA FEDOROVA	2026
Declarative Power Sequencing	<i>ACM TECS</i>
JASMIN SCHULT, DANIEL SCHWYN, MICHAEL GIARDINO, DAVID COCK, RETO ACHERMANN AND TIMOTHY ROSCOE	2021
Memory-Side Protection With a Capability Enforcement Co-Processor	<i>ACM TACO</i>
LEONID AZRIEL, LUKAS HUMBEL, RETO ACHERMANN , ALEX RICHARDSON, MORITZ HOFFMANN, AVI MENDELSON, TIMOTHY ROSCOE, ROBERT N. M. WATSON, PAOLO FARABOSCHI AND DEJAN MILOJICIC	2019

CONFERENCE PROCEEDINGS

Dynamic NUMA-Aware Replication for Data Structures	<i>IPDPS '26</i>
ERIKA HUNHOFF, ZACK MCKEVITT, ANKIT BHARDWAJ, RETO ACHERMANN , GERD ZELLWEGER, MARCOS AGUILERA AND ERIC KELLER	2026
Velosiraptor: Code Synthesis for Memory Translation	<i>ASPLOS '25</i>
RETO ACHERMANN , EM CHU, RYAN MEHRI, ILIAS KARIMALIS AND MARGO SELTZER	2025
Verus: A Practical Foundation for Systems Verification	<i>SOSP '24</i>
ANDREA LATTUADA, TRAVIS HANCE, JAY BOSAMIYA, MATTHIAS BRUN, CHANHEE CHO, HAYLEY LEBLANC, PRANAV SRINIVASAN, RETO ACHERMANN , TEJ CHAJED, CHRIS HAWBLITZEL, JON HOWELL, JACOB R. LORCH, ODED PADON AND BRYAN PARNO	2024
Sharding the State Machine: Automated Modular Reasoning for Complex Concurrent Systems	<i>OSDI'23</i>
TRAVIS HANCE, ANDREA LATTUADA, RETO ACHERMANN , ALEX CONWAY, RYAN STUTSMAN, GERD ZELLWEGER, CHRIS HAWBLITZEL, JON HOWELL AND BRYAN PARNO	2023
Enzian: An Open, General, CPU/FPGA Platform for Systems Software Research	<i>ASPLOS'22</i>
DAVID COCK, ABISHEK RAMDAS, DANIEL SCHWYN, MICHAEL GIARDINO, ADAM TUROWSKI, ZHENHAO HE, NORA HOSSLE, DARIO KOROLIJA, MELISSA LICCIARDELLO, KRISTINA MARTSENKO, RETO ACHERMANN , GUSTAVO ALONSO AND TIMOTHY ROSCOE	2022

Fast Sparse Decision Tree Optimization via Reference Ensembles	AAAI'22
HAYDEN MCTAVISH, CHUDI ZHONG, RETO ACHERMANN , ILIAS KARIMALIS, JACQUES CHEN, CYNTHIA RUDIN AND MARGO SELTZER	2022
NrOS: Effective Replication and Sharing in an Operating System	OSDI'21
ANKIT BHARDWAJ, CHINMAY KULKARNI, RETO ACHERMANN , IRINA CALCIU, SANIDHYA KASHYAP, RYAN STUTSMAN, AMY TAI AND GERD ZELLWEGER	2021
Fast Local Page-Tables for Virtualized NUMA Servers with vMitosis	ASPLOS'21
ASHISH PANWAR, RETO ACHERMANN , ARKAPRAVA BASU, ABHISHEK BHATTACHARJEE, K. GOPINATH AND JAYNEEL GANDHI	2021
Mitosis: Transparently Self-Replicating Page-Tables for Large-Memory Machines	ASPLOS'20
RETO ACHERMANN , ASHISH PANWAR, ABHISHEK BHATTACHARJEE, TIMOTHY ROSCOE AND JAYNEEL GANDHI	2020
Physical Addressing on Real Hardware in Isabelle/HOL	ITP'18
RETO ACHERMANN , LUKAS HUMBEL, DAVID COCK AND TIMOTHY ROSCOE	2018
SpaceJMP: Programming with Multiple Virtual Address Spaces	ASPLOS'16
IZZAT EL HAJJ, ALEXANDER MERRITT, GERD ZELLWEGER, DEJAN MILOJICIC, RETO ACHERMANN , PAOLO FARABOSCHI, WEN-MEI HWU, TIMOTHY ROSCOE AND KARSTEN SCHWAN	2016
Machine-aware Atomic Broadcast Trees for Multicores	OSDI'16
STEFAN KAESTLE, RETO ACHERMANN , RONI HAECKI, MORITZ HOFFMANN, SABELA RAMOS AND TIMOTHY ROSCOE	2016
Shoal: Smart Allocation and Replication of Memory for Parallel Programs	USENIX ATC'15
STEFAN KAESTLE, RETO ACHERMANN , TIMOTHY ROSCOE AND TIM HARRIS	2015
WORKSHOP PROCEEDINGS	
Exploring the Design Space of Isolation Mechanisms	PLOS '26
SIDHARTHA AGRAWAL, SHAURYA PATEL, LINH PHAM, ARYA STEVINSON, ILIAS KARIMALIS, HUGO LEFEUVRE, AASTHA MEHTA, RETO ACHERMANN AND MARGO SELTZER	2026
Topology-aware TLB Shutdown Protocols: It's more complicated than you think	PLOS '26
NING DING, MARGO SELTZER AND RETO ACHERMANN	2026
Caravan: Asynchronous Test-Time Adaptation for Faster Inference	TTU '26
JIAYIN KRALIK, ETHAN ZHAO, ANRUI LIU, RETO ACHERMANN , IVAN BESCHASTNIKH AND EVAN SHELHAMER	2026
Towards Tractable Hardware Model Validation Against Real Hardware	PLOS '26
RISHIKA VARMA KALIDINDI AND RETO ACHERMANN	2026
Unifying eBPF across Platforms: Formal Semantics, Conformance Testing, and Specifications	eBPF'26
YANZE LI, RETO ACHERMANN , IVAN BESCHASTNIKH AND ALEXANDER J. SUMMERS	2026
Comparing Isolation Mechanisms with OSmosis	PLOS '25
SIDHARTHA AGRAWAL, SHAURYA PATEL, ARYA STEVINSON, LINH PHAM, ILIAS KARIMALIS, HUGO LEFEUVRE, AASTHA MEHTA, RETO ACHERMANN AND MARGO I. SELTZER	2025
Why write address translation OS code yourself when you can synthesize it?	HotOS'23
RETO ACHERMANN , ILIAS KARIMALIS AND MARGO SELTZER	2023
Beyond isolation: OS verification as a foundation for correct applications	HotOS'23
MATTHIAS BRUN, RETO ACHERMANN , TEJ CHAJED, JON HOWELL, GERD ZELLWEGER AND ANDREA LATTUADA	2023
Synthesizing Device Drivers with Ghost Writer	PLOS'23
BINGYAO WANG, SEPEHR NOORAFSHAN, RETO ACHERMANN AND MARGO SELTZER	2023
Cache-Coherent Accelerators for Persistent Memory Crash Consistency	HotStorage'22
ANKIT BHARDWAJ, TODD THORNLEY, VINITA PAWAR, RETO ACHERMANN , GERD ZELLWEGER AND RYAN STUTSMAN	2022

Mmapx: Uniform Memory Protection in a Heterogeneous World	HotOS'21
RETO ACHERMANN, DAVID COCK, RONI HAECKI, NORA HOSSLE, LUKAS HUMBEL, TIMOTHY ROSCOE AND DANIEL SCHWYN	2021
Generating Correct Initial Page Tables from Formal Hardware Descriptions	PLOS'21
RETO ACHERMANN, DAVID COCK, RONI HAECKI, NORA HOSSLE, LUKAS HUMBEL, TIMOTHY ROSCOE AND DANIEL SCHWYN	2021
Separating Translation from Protection in Address Spaces with Dynamic Remapping	HotOS'17
RETO ACHERMANN, CHRIS DALTON, PAOLO FARABOSCHI, MORITZ HOFFMANN, DEJAN MILOJICIC, GEOFFREY NDU, ALEXANDER RICHARDSON, TIMOTHY ROSCOE, ADRIAN L. SHAW AND ROBERT N. M. WATSON	2017
Towards Correct-by-Construction Interrupt Routing on Real Hardware	PLOS'17
LUKAS HUMBEL, RETO ACHERMANN, DAVID COCK AND TIMOTHY ROSCOE	2017
Formalizing Memory Accesses and Interrupts	MARS'17
RETO ACHERMANN, LUKAS HUMBEL, DAVID COCK AND TIMOTHY ROSCOE	2017
Not Your Parents' Physical Address Space	HotOS'15
SIMON GERBER, GERD ZELLWEGER, RETO ACHERMANN, KORNILIOS KOURTIS, TIMOTHY ROSCOE AND DEJAN MILOJICIC	2015

Other Publications

THESES

On Memory Addressing	Doctoral Thesis
RETO ACHERMANN, DEPARTMENT OF COMPUTER SCIENCE, ETH ZURICH	2020
Message Passing and Bulk Transport on Heterogenous Multiprocessors	Master's Thesis
RETO ACHERMANN, DEPARTMENT OF COMPUTER SCIENCE, ETH ZURICH	2014
Barrelfish USB Subsystem	Bachelor's Thesis
RETO ACHERMANN, DEPARTMENT OF COMPUTER SCIENCE, ETH ZURICH	2013

POSTERS AND PRESENTATIONS

Proof-Carrying Verification for eBPF (Presentation)	LPC'26
MARTIN FINK, DENNIS SPROKHOLT, RETO ACHERMANN AND PRAMOD BHATOTIA	2026
OSmosis: Modeling and Building Flexible OS Isolation Mechanisms (Poster)	SOSP'23
SIDHARTHA AGRAWAL, SHAURYA PATEL, RETO ACHERMANN AND MARGO SELTZER	2023
Sockeye: Formally Describing Hardware as Seen by Software (Poster)	OSDI'18
RETO ACHERMANN, LUKAS HUMBEL, RONI HAECKI, DAVID COCK AND TIMOTHY ROSCOE	2018
Mitosis: Transparently Self-Replicating Page-Tables for Large-Memory Machines (Poster)	OSDI'18
RETO ACHERMANN, ASHISH PANWAR, ABHISHEK BHATTACHARJEE, TIMOTHY ROSCOE AND JAYNEEL GANDHI	2018
Enzian: a research computer for datacenter and rackscale computing (Poster)	OSDI'18
DAVID COCK, DAVID SIDLER, MUHSEN OWAIDA, RETO ACHERMANN, TOBIAS GROSSER, ZEKE WANG, AMIT KULKARNI, ALAIN DENZLER, ADAM TUROWSKI, ABISHEK RAMDAS, ANASTASIIA RUZHANSKAIA, TIMOTHY ROSCOE AND GUSTAVO ALONSO	2018
Formalizing Address Space Interactions (Poster)	OSDI'16
RETO ACHERMANN AND TIMOTHY ROSCOE	2016

NON-REVIEWED PUBLICATIONS

OSmosis: No more Déjà vu in OS isolation

SIDHARTHA AGRAWAL, **RETO ACHERMANN** AND MARGO SELTZER

[arXiv Preprint](#)

2023

Secure Memory Management on Modern Hardware

RETO ACHERMANN, NORA HOSSLE, LUKAS HUMBEL, DANIEL SCHWYN, DAVID COCK AND TIMOTHY ROSCOE

[arXiv Preprint](#)

2020

A Least-Privilege Memory Protection Model for Modern Hardware

RETO ACHERMANN, NORA HOSSLE, LUKAS HUMBEL, DANIEL SCHWYN, DAVID COCK AND TIMOTHY ROSCOE

[arXiv Preprint](#)

2019

CleanQ: a lightweight, uniform, formally specified interface for intra-machine data transfer

RONI HAECKI, LUKAS HUMBEL, **RETO ACHERMANN**, DAVID COCK, DANIEL SCHWYN AND TIMOTHY ROSCOE

[arXiv Preprint](#)

2019

Cichlid: Explicit physical memory management for large machines

SIMON GERBER, GERD ZELLWEGER, **RETO ACHERMANN**, MORITZ HOFFMANN, KORNILIOS KOURTIS, TIMOTHY ROSCOE AND DEJAN MILOJICIC

[arXiv Preprint](#)

2019

Patents

Transparent Self-Replicating Page Tables in Computing Systems

RETO ACHERMANN AND JAYNEEL GANDHI

[US11573904B2](#)

Granted (February 07, 2023) 2019

Interoperable capabilities

RETO ACHERMANN, MAURICE BAILLEU, DEJAN S. MILOJICIC AND GABRIEL PARMER

[US20170329526A1](#)

Abandoned 2016

Memory management with versioning of objects

IZZAT EL HAJJ, ALEXANDER MERRITT, GERD ZELLWEGER, DEJAN S. MILOJICIC AND **RETO ACHERMANN**

[WO2017131789A1](#)

Published (August 03, 2017) 2016

Awards and Distinctions

TEACHING AWARDS

Positive Teaching Letter

FACULTY OF SCIENCE, THE UNIVERSITY OF BRITISH COLUMBIA

2023

SCHOLARSHIP AWARDS

Distinguished Artifact Award

30TH ACM INTERNATIONAL CONFERENCE ON ARCHITECTURAL SUPPORT FOR PROGRAMMING LANGUAGES AND OPERATING SYSTEMS

2025

Distinguished Artifact Award

30TH SYMPOSIUM ON OPERATING SYSTEMS PRINCIPLES

2024

Intel Best Paper Award

14TH ACM WORKSHOP ON HOT TOPICS IN STORAGE AND FILE SYSTEMS

2022

HiPEAC Paper Award

21ST ACM INTERNATIONAL CONFERENCE ON ARCHITECTURAL SUPPORT FOR PROGRAMMING LANGUAGES AND OPERATING SYSTEMS

2016

SERVICE AWARDS

UBC Science Co-op Supervisor Recognition Award

THE UNIVERSITY OF BRITISH COLUMBIA

2025

Distinguished Reviewer

2024

29TH ACM INTERNATIONAL CONFERENCE ON ARCHITECTURAL SUPPORT FOR PROGRAMMING LANGUAGES AND OPERATING SYSTEMS

Faculty of Science Excellence in Service Award

2024

THE UNIVERSITY OF BRITISH COLUMBIA

Honorable Mention Distinguished Reviewer (Shadow PC)

2021

16TH EUROPEAN CONFERENCE ON COMPUTER SYSTEMS

Service

2027	21st USENIX Symposium on Operating Systems Design and Implementation ACM SIGOPS 21st Workshop on Hot Topics in Operating Systems 22th European Conference on Computer Systems	<i>Program Committee Treasurer</i>
2026	32nd ACM Symposium on Operating Systems Principles 20th USENIX Symposium on Operating Systems Design and Implementation 21th European Conference on Computer Systems 21th European Conference on Computer Systems	<i>Program Committee Program Committee Program Committee Session Chair</i>
2025	ACM Student Research Competition 2025 3rd Workshop on Kernel Isolation, Safety and Verification 2025 USENIX Annual Technical Conference 46th ACM SIGPLAN Conference on Programming Language Design and Implementation 20th European Conference on Computer Systems 20th European Conference on Computer Systems	<i>Program Committee Program Committee Program Committee Program Committee Session Chair Program Committee</i>
2024	19th European Conference on Computer Systems ACM International Conference on Architectural Support for Programming Languages and Operating Systems ACM Student Research Competition 2024	<i>Program Committee Program Committee Program Committee</i>
2023	ACM Student Research Competition 2023 2023 USENIX Annual Technical Conference 18th European Conference on Computer Systems 18th European Conference on Computer Systems	<i>Program Committee Presentation Juror Program Committee Program Committee Session Chair</i>
2022	ACM International Conference on Architectural Support for Programming Languages and Operating Systems 2022 USENIX Annual Technical Conference 2022 USENIX Annual Technical Conference IEEE Internet Computing	<i>Program Committee Session Chair Reviewer</i>
2021	2021 USENIX Annual Technical Conference 15th USENIX Symposium on Operating Systems Design and Implementation 2021 USENIX Annual Technical Conference 16th European Conference on Computer Systems	<i>Networking Co-Chair Networking Co-Chair Program Committee Shadow Program Committee</i>

Invited Presentations

Isolation and Virtual Memory: It's more complicated than you think!

- 2026/10/03 – OPENHARMONY TECHNICAL CONFERENCE

Configuring the memory hardware, correctly!

- 2025/06/04 – DND FACULTY MIXER

Velosiraptor: Code Synthesis for Memory Translation

- 2025/04/03 – ASPLOS '25

Safe and secure Systems: Sharing, Translations, and Device Interactions

- 2025/03/27 – TU MUNICH, DEPARTMENT OF COMPUTER SCIENCE

GPUs, Growth, and Green

- 2024/06/13 – VANCOUVER SR. WOMEN IN TECH EVENT @ UBC CS

Why write code when you can synthesize address translations?

- 2023/06/23 – 19TH WORKSHOP ON HOT TOPICS IN OPERATING SYSTEMS (HOTOS'23)

Why program when you can automatically synthesize OS code?

- 2023/05/17 – HUAWEI RESEARCH LAB
- 2023/05/23 – ETH ZURICH
- 2023/05/25 – EPFL

Fast Local Page Tables for NUMA Servers with Mitosis

- 2021/06/08 – ICSA COLLOQUIUM – UNIVERSITY OF EDINBURGH

mmapx: Uniform Memory Protection in a Heterogeneous World

- 2021/06/03 – 18TH WORKSHOP ON HOT TOPICS IN OPERATING SYSTEMS (HOTOS'21)

Mitosis: Transparently Self-Replicating Page-Tables for Large-Memory Machines

- 2020/03/19 – 25TH INTERNATIONAL CONFERENCE ON ARCHITECTURAL SUPPORT FOR PROGRAMMING LANGUAGES AND OPERATING SYSTEMS (ASPLOS'20)

Memory Topology Models and Their Application in Operating Systems

- 2020/02/25 – TRUSTWORTHY SYSTEMS, DATA 61 AND UNIVERSITY OF NEW SOUTH WALES

Faithful Hardware Abstractions and Least-Privilege Memory Management

- 2019/12/06 – LAB FOR ADVANCED SYSTEMS RESEARCH (LASR), UNIVERSITY OF TEXAS AT AUSTIN
- 2019/11/01 – NETWORKS, SYSTEMS, AND SECURITY (NSS) LAB, UNIVERSITY OF BRITISH COLUMBIA

Model-based system configuration and tasteful hardware

- 2017/07/06 – SYSTEMS RESEARCH GROUP, UNIVERSITY OF CAMBRIDGE

Provable Correct Memory Management

- 2017/04/23 – 11TH EUROSYS DOCTORAL WORKSHOP

Machine-aware Atomic Broadcast Trees for Multicores

- 2016/11/02 – 12TH USENIX SYMPOSIUM ON OPERATING SYSTEMS DESIGN AND IMPLEMENTATION (OSDI'16)

Supervised and Mentored Students

PHD STUDENT SUPERVISION

Sandro-Alessio Gierens

SUPERVISOR. PHD THESIS (IN PROGRESS).

2026-pres

Technical University of Munich

Ian Dougherty

CO-SUPERVISOR. PHD THESIS (IN PROGRESS).

2026-pres

University of British Columbia

MASTER STUDENT SUPERVISION

Jiayin Kralik

CO-SUPERVISOR. PHD TRACK (IN PROGRESS).

2025–pres

University of British Columbia

UNDERGRADUATE STUDENT SUPERVISION

Kuter Bora

SUPERVISOR. DIRECTED STUDIES PROJECT. “Verified Memory Allocator for Compartmentalized Software”.

2026–2026

University of British Columbia

Jay Tan

SUPERVISOR. HONOURS THESIS. “Scaling and Metrics Collection in a Serverless Simulator”.

2025–2026

University of British Columbia

Ning Ding

SUPERVISOR. DIRECTED STUDIES PROJECT. “Investigation of TLB Shootdown Protocols”.

2025–2026

University of British Columbia

Alberto Escobar

SUPERVISOR. DIRECTED STUDIES PROJECT. “Investigation of Communication Overheads in uServices”.

2025–2025

University of British Columbia

Kai Komnenovic

CO-SUPERVISOR. DIRECTED STUDIES PROJECT. “Investigation of PCIe Side-Channels”.

2025–2026

University of British Columbia

Anmol Ghadia

CO-SUPERVISOR. HONOURS THESIS. “Performance Optimization of Network Side-Channel Mitigation Systems via SmartNIC Offloading”.

2025–2026

University of British Columbia

Jiayin Kralik

CO-SUPERVISOR. NSERC USRA PROJECT. “Specifying eBPF”.

2025–2025

University of British Columbia

Jay Tan

SUPERVISOR. NSERC USRA PROJECT. “Scaling and Metrics Collection in a Serverless Simulator”.

2025–2025

University of British Columbia

Han Kim

SUPERVISOR. NSERC USRA PROJECT. “Scheduling and Workload Generation in a Serverless Simulator”.

2025–2025

University of British Columbia

Kuter Bora

SUPERVISOR. WLIURA PROJECT. “Verified Memory Allocator for Compartmentalized Software”.

2025–2025

University of British Columbia

Tony Zhang

SUPERVISOR. DIRECTED STUDIES PROJECT. “Using Lingua-Franca to model Driver-Device Interactions”.

2025–2025

University of British Columbia

Kevin Liu

SUPERVISOR. DIRECTED STUDIES PROJECT. “Verification of SQLite’s Page Cache”.

2025–2025

University of British Columbia

Phillip Dumitru

CO-SUPERVISOR. HONOURS THESIS. “Exploring Formal Verification Tools to Reason About Operating System Security”.

2023–2024

University of British Columbia

Ryan Mehri

CO-SUPERVISOR. DIRECTED STUDIES PROJECT. “Encoding memory models for address translation in an SMT solver”.

2023–2023

University of British Columbia

(name withheld)

CO-SUPERVISOR. HONOURS THESIS. “Profiling execution of virtual machines”.

2022–2023

University of British Columbia

MENTORED STUDENTS

Emily Chu

MENTOR. CO-OP RESEARCH INTERNSHIP PROJECT. “Generating translation hardware components for the Arm FastModels”.

2023–2023

University of British Columbia

David Bromley

MENTOR. NSERC USRA PROJECT. “Formally specifying optimal sparse decision trees (OSDT) in Dafny”.

2022–2022

University of British Columbia

Sepehr Noorafshan	2022–2022
MENTOR. NSERC USRA PROJECT. <i>“Revisiting device driver synthesis with behavior trees”</i> .	University of British Columbia
Portia Chang	2022–2022
MENTOR. NSERC USRA PROJECT. <i>“Revisiting device driver synthesis with behavior trees”</i> .	University of British Columbia
Ilias Karimalis	2022–2022
MENTOR. NSERC USRA PROJECT. <i>“Design and implementation of a DSL to specify translation hardware”</i> .	University of British Columbia
Joel Busch	2020–2020
MENTOR. MASTER’S THESIS. <i>“Detailed Simulation of Enzian’s Cache Coherence Protocol”</i> .	ETH Zurich
Thore Goebel	2020–2020
MENTOR. BACHELOR’S THESIS. <i>“CleanQ for USB”</i> .	ETH Zurich
Patrick Ziegler	2019–2020
MENTOR. BACHELOR’S THESIS. <i>“A Unified Approach to Simulation of Hybrid CPU/FPGA systems”</i> .	ETH Zurich
Leo Horne	2019–2019
MENTOR. BACHELOR’S THESIS. <i>“Using NetBSD Kernel Components on Barrelfish Through Rump Kernels”</i> .	ETH Zurich
Giuseppe Arcuti	2019–2019
MENTOR. BACHELOR’S THESIS. <i>“Formally modelling hardware standards”</i> .	ETH Zurich
Jakob Meier	2018–2019
MENTOR. MASTER’S THESIS. <i>“Tools for Cache Coherence Protocol Interoperability”</i> .	ETH Zurich
Nora Hossle	2018–2019
MENTOR. MASTER’S THESIS. <i>“Multiple Address Spaces in a Distributed Capability System”</i> .	ETH Zurich
Sven Knobloch	2018–2018
MENTOR. BACHELOR’S THESIS. <i>“System Modeling Co-Design”</i> .	ETH Zurich
Joel Busch	2017–2018
MENTOR. BACHELOR’S THESIS. <i>“Device Queues for USB”</i> .	ETH Zurich
Daniel Schwyn	2017–2017
MENTOR. MASTER’S THESIS. <i>“Hardware Configuration With Dynamically-Queried Formal Models”</i> .	ETH Zurich
Andrei Poenaru	2016–2017
MENTOR. MASTER’S THESIS. <i>“Explicit OS support for hardware threads”</i> .	ETH Zurich
David Keller	2015–2015
MENTOR. BACHELOR’S THESIS. <i>“Dynamic Linking and Loading in Barrelfish”</i> .	ETH Zurich

References

Available on request.