

Caius Brindescu

Email: caius@brindescu.com
Website: caius.brindescu.com
Github: github.com/caiusb
LinkedIn: linkedin.com/in/caius-brindescu

Profile

I am Software Engineer at Hightouch. My work focuses on backend development, designing and managing a high performance realtime event system. I got my PhD at Oregon State University in 2020 where I worked on understanding how developers solve problems, with a focus on how they resolve merge conflicts. My passions are cloud technologies, Kubernetes, and developing fast, performant systems.

Previously, I was a Principal Software Engineer at Etleap.

Outside of work, I enjoy 3D printing, designing electronic gadgets and constantly upgrading my homelab.

Education

- 2013 - 2020 **PhD in Computer Science at Oregon State University**
Thesis: *“An Investigation of the Effects of Merge Conflicts on Collaborative Software Development.”* I was advised by Dr. Carlos Jensen and Dr. Anita Sarma.
- 2012 - 2013 **PhD in Computer Science at University of Illinois at Urbana-Champaign**
Research Interests: Software evolution and software design. I worked with Dr. Danny Dig.
- 2007 - 2011 **Bachelor of Science in Computer Engineering at “Politehnica” University, Timisoara**
Subjects studied: Software Engineering, Object Oriented Programming, Operating Systems, Databases.

Work Experience

- 09/26 - present Software Engineer – Distributed Systems at **Hightouch**
Responsibilities: Maintaining and developing a high-performance realtime event system.
- 11/24 - 08/26 Principal Engineer at **Etleap**
09/19 - 11/24 Member of Technical Staff
06/18 - 09/18 Software Engineering Intern
Responsibilities: Building and maintaining the backend services. Maintaining and evolving the AWS infrastructure and CI/CD system. Designed, and lead a custom solution to allow customers to manage private deployments in AWS using an in-VPC agent to simplify deployments and maintenance when using Terraform modules.
- 08/12 - 06/19 Graduate Assistant at **Oregon State University**
Responsibilities: Conducting graduate research, teaching assistant for multiple courses, and teaching.

- 03/12 - 07/12 Research Engineer at **Politehnica Univesity of Timișoara** and Software Engineer at **Movidius Inc**
Responsibilities: Joint project between the university and Movidius. My task was implementing an Eclipse based IDE to support multi-core debugging of embedded systems.
- Summer 2011 Internship at **University of Illinois at Urbana-Champaign** under the supervision of Danny Dig.
Responsibilities: Extending the existing *ReLooper* tool with a way to solve data-races via privatization. It is built as an Eclipse plugin and uses the WALA framework for static analysis.
- Summer 2009 & Summer 2010 Internship at **Politehnica University of Timișoara** under the supervision of Radu Marinescu
Responsibilities: Researching a method to use automated refactoring to solve bad smells in code. Determining the right refactoring strategy was done using metric-based algorithms. Looked for applications in the Refuse Parent Bequest design flaw. I also implemented a refactoring engine to be used to improve the design of software products.
- Summer 2008 Internship at **Incremental SRL**
Responsibilities: Servicing computers

Teaching Experience

- Winter 2019 Teaching assistant for Software Engineering II (CS 362) at Oregon State University
Responsibilities: Office Hours and grading.
- Fall 2018 Instructor for Software Engineering I (CS 361) at Oregon State University
Responsibilities: Prepare lecture material and assignments, organize and coordinate student projects, office hours and mentoring.
- Spring 2018 Teaching Assistant for Lab Studies in SE and HCI (CS 567) at Oregon State University
Instructor: Anita Sarma
Responsibilities: Office hours, grading and creating assignments. I am also supervising student teams for their class project.
- Winter 2018 Teaching Assistant for Software Engineering II (CS 362) at Oregon State University
Instructor: Ali Aburasa
Responsibilities: Office hours and grading.
- Fall 2017 Teaching Assistant for Software Engineering I (CS 361) at Oregon State University
Instructor: Anita Sarma
Responsibilities: Office hours, grading and preparing assignments.
- Summer 2017 Instructor for Web Development (CS 290) at Oregon State University
Responsibilities: Preparing lecture material and designing the assignments, lecturing and office hours.
- Spring 2017 Teaching Assistant for Empirical Software Engineering (CS 569) and Advanced Software Engineering (CS 562) at Oregon State University
Instructor: Anita Sarma and Danny Dig
Responsibilities: Office hours and grading

Winter 2017	Teaching Assistant for Mobile and Cloud Development (CS 498) and Empirical Software Engineering (CS 569) at Oregon State University Instructor: Justin Wolford and Anita Sarma Responsibilities: Office hours and grading
Fall 2016	Teaching Assistant for Software Engineering I (CS 361) at Oregon State University Instructor: Alex Groce Responsibilities: Office hours and grading
Spring, Summer 2016	Teaching Assistant for the online version of Senior Software Projects (CS 419) at Oregon State University Instructor: Benjamin Brewster Responsibilities: Monitoring the teams progress and grading
Winter 2016	Teaching Assistant for Operating Systems I (CS 344) at Oregon State University Instructor: Benjamin Brewster Responsibilities: Office hours and grading
Fall 2015	Teaching Assistant for Software Engineering I (CS 361) at Oregon State University Instructor: Anita Sarma Responsibilities: Office hours and grading
Summer 2015	Teaching Assistant for the online version of Software Engineering I (CS 361) at Oregon State University. Instructor: Iftekhar Ahmed Responsibilities: Grading
Spring 2015	Teaching Assistant for Software Engineering II (CS 362) at Oregon State University. Instructor: Alex Groce Responsibilities: Grading and holding office hours.
Winter 2015	Teaching Assistant for Software Engineering I (CS 361) at Oregon State University. Instructor: Danny Dig Responsibilities: Creating and grading homework. Mentoring teams of four students and helping them make constant progress throughout the term.
Fall 2014	Instructor for Seminar: Grad Intro (CS 507) at Oregon State University Supervising professor: Bella Bose Responsibilities: Holding a 50-minute lecture each week about topics relating to the graduate program (e.g. doing literature searches, preparing a presentation etc.)
Spring 2013	Teaching Assistant for Software Engineering II (CS 428) at University of Illinois at Urbana-Champaign. Instructor: Danny Dig Responsibilities: Creating and grading homeworks. Mentoring teams of eight students so they make constant progress on their class project.
Fall 2012	Teaching Assistant for Software Engineering I (CS 427) at University of Illinois at Urbana-Champaign. Instructor: Ralph Johnson Responsibilities: Creating and grading homeworks. Supervising student teams for the class project.

Publications

Journals

- TOSEM '20** **Using relative lines of code to guide automated test generation for Python**
Josie Holmes, Iftekhhar Ahmed, Caius Brindescu, Rahul Gopinath, He Zhang, Alex Groce
ACM Transactions on Software Engineering and Methodology, vol. 89, issue 4, pp. 1 – 39
- ESEJ '19** **An empirical investigation into merge conflicts and their effect on software quality**
Caius Brindescu, Iftekhhar Ahmed, Carlos Jensen, Anita Sarma
Empirical Software Engineering Journal, vol. 25, pp. 562 – 590
- ESEJ '19** **The Life-Cycle of Merge Conflicts: Processes, Barriers, and Strategies**
Nicholas Nelson, Caius Brindescu, Shane McKee, Anita Sarma, Danny Dig
Empirical Software Engineering Journal, vol. 24, pp. 2863 -- 2906

Conferences

- ICSME '20** **Lifting the Curtain on Merge Conflict Resolution: A Sensemaking Perspective**
Caius Brindescu, Yenifer Ramirez, Anita Sarma, Carlos Jensen
International Conference of Software Maintenance and Evolution, Adelaide, Australia, October 2020
- ICSE '20** **Planning for Untangling: Predicting the Difficulty of Merge Conflicts**
Caius Brindescu, Iftekhhar Ahmed, Rafael Leano, Anita Sarma
International Conference on Software Engineering, Seoul, South Korea, November 2020
Acceptance rate: 21% (129/617)
- ESEM '17** **An Empirical Examination of Code Smells and Their Impact on Collaborative Work**
Iftekhhar Ahmed, Caius Brindescu, Umme Ayda Mannan, Carlos Jensen, Anita Sarma
International Symposium on Empirical Software Engineering and Measurement, Toronto, Ontario, Canada, November 2017.
Acceptance rate: 26% (74/273)
- FSE '16** **Can Testedness be Effectively Measured?**
Iftekhhar Ahmed, Rahul Gopinath, Caius Brindescu, Alex Groce, Carlos Jensen
International Symposium on the Foundations of Software Engineering, Seattle, WA, USA, November 2016.
Acceptance rate: 26% (74/273)
- ICSE '14** **How Do Centralized and Distributed Version Control Systems Impact Software Changes?**
Caius Brindescu, Mihai Codoban, Sergii Shmarkatiuk, Danny Dig
International Conference on Software Engineering, Hyderabad, India, May 2014
Acceptance rate: 20% (99/499)

Blog Posts

- Jun 2025** **Real-time Iceberg Ingestion with AWS DMS**
Caius Brindescu, Mahesh Kansara
AWS Database Blog
- Nov 2022** **How Etleap and Amazon Redshift Serverless optimize costs for ETL**
Caius Brindescu, Maneesh Sharma, and Sathisan Vannadil
AWS Big Data Blog
- Nov 2021** **Integrate Etleap with Amazon Redshift Streaming Ingestion (preview) to make data available in seconds**
Caius Brindescu, Jobin George, Maneesh Sharma, and TJ Green
AWS Big Data Blog
- Dec 2020** **How Etleap Integrates with Amazon Redshift Data Sharing to Provide Isolation of ETL and BI Workloads**
Jobin George, Christian Romming, Neeraja Rentachintala, and Caius Brindescu
AWS Partner Network (APN) Blog

Service

I served as an external reviewer for the following conferences: ECOOP '15, ASE '14, ECOOP '13, ASE '17, ASE '17 Tool Demos, ICSE '19 and FSE '19. I was also a student volunteer for OOPSLA '14, FSE '16 and FSE '18.

I was on Program Committee for the Tool Track at SCAM '15, the Mining Challenge at MSR '17, the Showpiece track at VL/HCC '17 and the Industry Track at ESEC/FSE 2021.

Talks

- 04/2025** *Every Second Counts: Scaling Real-Time Data Ingestion into Apache Iceberg™ for Optimized Analytics*
Talk at the Apache Iceberg Summit 2025
- 10/2014** *How do Centralized and Distributed Version Control Systems Impact Software Changes?*
Talk in CS 561 (Software Engineering) at Oregon State University. Host: Danny Dig
- 09/2012** *Code Smells*
Lecture in CS 427 (Software Engineering I) at University of Illinois at Urbana-Champaign.
Host: Ralph Johnson