

Caius Brindescu

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Profile

I am a Principal Engineer at Etleap. My work focuses on backend development, managing and evolving our AWS infrastructure, customer support and customer onboarding. I got my PhD at Oregon State University in 2020 where I worked on understanding how developers solve problems, with a focus on how the resolve merge conflicts.

Education

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| 2013 - 2020 | PhD in Computer Science at Oregon State University
Thesis: <i>“An Investigation of the Effects of Merge Conflicts on Collaborative Software Development.”</i> 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, Timișoara
Subjects studied: Software Engineering, Object Oriented Programming, Operating Systems, Databases. |

Work Experience

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| 11-24 - present | Principal Engineer at Etleap |
| 09/19 - 11/24 | Member of Technical Staff |
| 06/18 - 09/18 | Software Engineering Intern
Responsibilities: Support customers during onboarding and trials, building and maintaining the core product and infrastructure. |
| 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	<p>Internship at University of Illinois at Urbana-Champaign under the supervision of Danny Dig.</p> <p>Responsibilities: Extending the existing <i>ReLooper</i> 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.</p>
Summer 2009 & Summer 2010	<p>Internship at Politehnica University of Timișoara under the supervision of Radu Marinescu</p> <p>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.</p>
Summer 2008	<p>Internship at Incremental SRL</p> <p>Responsibilities: Servicing computers</p>

Teaching Experience

Winter 2019	<p>Teaching assistant for Software Engineering II (CS 362) at Oregon State University</p> <p>Responsibilities: Office Hours and grading.</p>
Fall 2018	<p>Instructor for Software Engineering I (CS 361) at Oregon State University</p> <p>Responsibilities: Prepare lecture material and assignments, organize and coordinate student projects, office hours and mentoring.</p>
Spring 2018	<p>Teaching Assistant for Lab Studies in SE and HCI (CS 567) at Oregon State University</p> <p>Instructor: Anita Sarma</p> <p>Responsibilities: Office hours, grading and creating assignments. I am also supervising student teams for their class project.</p>
Winter 2018	<p>Teaching Assistant for Software Engineering II (CS 362) at Oregon State University</p> <p>Instructor: Ali Aburasa</p> <p>Responsibilities: Office hours and grading.</p>
Fall 2017	<p>Teaching Assistant for Software Engineering I (CS 361) at Oregon State University</p> <p>Instructor: Anita Sarma</p> <p>Responsibilities: Office hours, grading and preparing assignments.</p>
Summer 2017	<p>Instructor for Web Development (CS 290) at Oregon State University</p> <p>Responsibilities: Preparing lecture material and designing the assignments, lecturing and office hours.</p>
Spring 2017	<p>Teaching Assistant for Empirical Software Engineering (CS 569) and Advanced Software Engineering (CS 562) at Oregon State University</p> <p>Instructor: Anita Sarma and Danny Dig</p> <p>Responsibilities: Office hours and grading</p>
Winter 2017	<p>Teaching Assistant for Mobile and Cloud Development (CS 498) and Empirical Software Engineering (CS 569) at Oregon State University</p> <p>Instructor: Justin Welford and Anita Sarma</p> <p>Responsibilities: Office hours and grading</p>

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: Iftekhhar 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, Iftekhar 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, Iftekhar 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, Iftekhar 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**
 Iftekhar 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?**
 Iftekhar 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

Nov 2022	How Etleap and Amazon Redshift Serverless optimize costs for ETL Caius Brindescu, Maneesh Sharma, and Sathisan Vannadil <i>AWS Big Data Blog</i>
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 <i>AWS Big Data Blog</i>
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 <i>AWS Partner Network (APN) Blog</i>

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