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

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, Timişoara**

Subjects studied: Software Engineering, Object Oriented Programming, Operating Systems, Databases.

Work Experience

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 Timişoara** 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 Timişoara** 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 **Responsibilites:** 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
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.

Invited talks

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