Beatriz Souza

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Education

Apr 2023-now — **PhD in Computer Science**
University of Stuttgart, Germany
Advisor: Michael Pradel

Oct 2021-Feb 2023 — **Master's in Computer Science**
Federal University of Pernambuco, Brazil
Advisor: Marcelo d'Amorim

May 2017-June 2021 — **Bachelor's in Computer Science**
Federal University of Campina Grande, Brazil
Advisor: Rohit Gheyi

May 2013-Sept 2016 — **High School with a Technical Degree in Informatics**
Federal Institute of Education, Science and Technology of Paraíba, Brazil
Advisor: Gustavo Soares Vieira

Experience

Apr 2024-July 2024 | **Research intern** at Microsoft Research, Redmond, WA, USA
I designed an approach for *runtime verification* of distributed systems.

July 2022-Dec 2022 | **Research intern** at SOLA, Stuttgart, Germany
I worked on *LExecutor*, a learning-guided approach for executing arbitrary Python code snippets.

May 2020-Feb 2021 | **Software Developer** at Lab Analytics, Campina Grande, Brazil
I worked on *Tá de Pé?* and *Monitor Cidadão*, which are web applications aiming to identify risks in Brazilian government contracts.

Nov 2019-Oct 2020 | **Research assistant** at UFCG, Campina Grande, Brazil
I Worked on a sound and lightweight technique, based on theorem proving using Z3, to identify equivalent, duplicate, and subsumed mutations.

Aug 2018-July 2019 | **Research assistant** at SPLAB, Campina Grande, Brazil
I investigated the effectiveness of state-of-the-art tools that automatically generate test cases, such as Randoop and EvoSuite.

July 2016-Sept 2016 | **Web Developer Intern** at Papagaio, João Pessoa, Brazil
I participated in the development of an e-commerce platform for drug stores.

Aug 2015-July 2016 | **Research assistant** at IFPB, Cajazeiras, Brazil
I worked on *Segundo Mendel*, a mobile application to help high school students to learn genetic concepts, such as Mendel's Laws.

Publications

FSE'23 — LExecutor: Learning-Guided Execution.
Beatriz Souza and Michael Pradel. *Symposium on the Foundations of Software Engineering*

IST'21 — Identifying Method-Level Mutation Subsumption Relations using Z3.
Rohit Gheyi, Márcio Ribeiro, **Beatriz Souza**, Marcio Guimarães, Leo Fernandes, Marcelo d'Amorim, Vander Alves, Leopoldo Teixeira, Baldoino Fonseca. *Elsevier Information and Software Technology*

SBES'20 — A Large Scale Study On the Effectiveness of Manual and Automatic Unit Test Generation.
Beatriz Souza and Patrícia Machado. *Brazilian Symposium on Software Engineering*

SBES'20 — A Lightweight Technique to Identify Equivalent Mutants.
Beatriz Souza and Rohit Gheyi. *Brazilian Symposium on Software Engineering*

ASE'20 — Identifying Mutation Subsumption Relations.
Beatriz Souza. *International Conference on Automated Software Engineering*

SPLASH'19 — Is Mutation Score a Fair Metric?.
Beatriz Souza. *International Conference on Systems, Programming, Languages, and Applications: Software for Humanity*

Awards

- **ACM SIGSOFT Distinguished Paper Award at The Symposium on the Foundations of Software Engineering** (FSE'23) for the work *LExecutor: Learning-Guided Execution*.
- **Best paper at The Brazilian Symposium on Software Engineering** (SBES'20) for the work *A Large Scale Study On the Effectiveness of Manual and Automatic Unit Test Generation*.
- **First Place at The Undergraduate Research on Software Engineering Competition** (SBES'20) for the work *A Lightweight Technique to Identify Equivalent Mutants*.
- **Third Place at The ACM Student Research Competition** (ASE'20) for the work *Identifying Mutation Subsumption Relations*.
- **Third Place at The ACM Student Research Competition** (SPLASH'19) for the work *Is Mutation Score a Fair Metric?*.

Teaching Experience

Apr 2023-Sept 2023	**Teaching assistant** at SOLA, Stuttgart, Germany Programming Paradigms - I created and graded exercise lists and addressed questions for a class of 80+ students.
Mar 2018-Aug 2018	**Teaching assistant** at UFCG, Campina Grande, Brazil Mathematical Foundations for Computer Science - I helped professor by grading exercise lists and addressing questions for a class of 46 students.
July 2015-Dec 2015	**Teaching assistant** at IFPB, Cajazeiras, Brazil Competitive Programming - I collaborated in a course to prepare high school and undergraduate students for programming contests using C as programming language.

Volunteer Service

- Student volunteer of the ASE 2020 conference.