

# Ernesto C. B. de Matos

Fortaleza, Ceará, Brazil

+55 (85) 99843 8622 | [cid.ernesto@gmail.com](mailto:cid.ernesto@gmail.com) | [www.ernestocid.com](http://www.ernestocid.com) | [ernestocid](#) | [ernestocid](#)

## Experience

---

### Gocase

Fortaleza, CE, Brazil

SOFTWARE ENGINEER (WORKING WITH RUBY ON RAILS)

Aug. 2016 - Present

- Developed a reporting application for a Spree e-commerce instance.
- Developed a platform for partner designers so they could track sales and commissions for their products.
- Developed an application for the company's kiosks so they could order products and follow the production flow.
- Developed a system to automatically create product images for the online store (more than a thousand designs for different phones).
- Worked on other back office applications that handle product manufacturing.

### Federal University of Rio Grande do Norte (UFRN)

Natal, RN, Brazil

PHD CANDIDATE RESEARCHING SOFTWARE TESTING AND FORMAL METHODS

Feb. 2012 - Apr. 2016

- Developed a tool-supported approach called BETA (see Projects section) to automatically generate unit tests from B models.
- In our experiments, the tool was able to find bugs in the targeted software and provided 94% code coverage and 79% mutation score.
- The research resulted in six publications on national and international events. It won a best paper award in the 9th SAST symposium.

### Heinrich-Heine-Universität (HHU)

Düsseldorf, NRW, Germany

VISITING RESEARCHER

May 2014 - Mar. 2015

- Worked in the STUPS laboratory. Collaborated with the local team to integrate BETA with their tool's (ProB) API.
- Implemented new features in BETA such as automatic test setup definitions, test data randomization and concretization.

### Federal University of Rio Grande do Norte (UFRN)

Natal, RN, Brazil

MSC STUDENT RESEARCHING SOFTWARE TESTING AND FORMAL METHODS

Feb. 2010 - Jan. 2012

- Conducted research on Software Testing and Formal Methods. Developed BETA's first version as my final dissertation.

### Remanso Mining and Construction

Teresina, PI, Brazil

REQUIREMENTS ENGINEER AND RESEARCH & DEVELOPMENT

Aug. 2007 - Jan. 2010

- As an intern, I helped to collect, document and maintain system requirements for the company and for external clients.
- Later I was hired to a R&D role where I developed a plugin to generate acceptance tests from requirement specifications.

## Projects

---

### BETA (B basEd Testing Approach)

RESEARCHER AND DEVELOPER

- A Model-Based Testing open-source tool to generate test suites from B models.
- The tool supports logical and input space coverage. It generates test case specifications and partial test scripts in Java and C++.
- It supports the generation of test case setup and assertions. It also automates test data randomization and concretization.
- Technologies: Java, JUnit, Mockito, Constraint Solving, Model Checking, HTML, CSS, XML Gradle, Git.

### WAAT (Web Application Automated Testing)

RESEARCHER AND DEVELOPER

- An Eclipse plugin to generate Selenium tests. Tests were generated from specifications written in an english-like controlled language.
- Technologies: Java, Selenium, HTML, CSS, ANTLR, Eclipse, SVN.

## Education

---

### Federal University of Rio Grande do Norte (UFRN)

Natal, RN, Brazil

PHD IN SYSTEMS AND COMPUTING (GRANTED A SCHOLARSHIP, AVERAGE GRADE: CURRENTLY 5.0/5.0)

Feb. 2012 - Apr. 2016

- Relevant Coursework: Software Metrics, Distributed Systems.

### Federal University of Rio Grande do Norte (UFRN)

Natal, RN, Brazil

MSC IN SYSTEMS AND COMPUTING (GRANTED A SCHOLARSHIP, AVERAGE GRADE: 4.5/5.0)

Feb. 2010 - Jan. 2012

- Relevant Coursework: Software Engineering, Software Testing, Logic, Formal Specifications.

### Centro de Ensino Unificado de Teresina (CEUT)

Teresina, PI, Brazil

BACHELOR'S DEGREE IN COMPUTER SCIENCE (AVERAGE GRADE: 8.0/10.0)

Feb. 2006 - Dec. 2009

- Relevant Coursework: Algorithms, Data Structures, Operating Systems, Computer Networks, Compilers, AI, Databases.

## Additional Experience

---

VOLUNTEER DEVELOPER

- With college colleagues, developed a web-based CMS system in Java for the Piauí state Court of Justice (Tribunal de Justiça - PI).