

Stevão A. Andrade

SOFTWARE ENGINEERING · SOFTWARE TESTER EXPERT

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Research Interest

I work at the intersection of **Software Engineering** and **Software Testing**. My work draws on automate software testing activity, empirical research, mutation testing, and metamorphic testing to solve software engineering quality problems, such as fault detection, software testing oracle problem and software testing/engineering education.

Education

Universidade de São Paulo (USP)

PH.D. IN COMPUTER SCIENCE AND COMPUTATIONAL MATHEMATICS PROGRAM

- Thesis: A software testing approach to virtual reality applications using metamorphic testing

São Carlos, Brasil

Out. 2017 - Nov. 2022

Universidade de São Paulo (USP)

MASTER IN COMPUTER SCIENCE AND COMPUTATIONAL MATHEMATICS PROGRAM

- Dissertation: Parallel execution of programs as a support for mutation testing

São Carlos, Brasil

Out. 2013 - Apr. 2016

Faculdade Integral Diferencial (FACID|DeVry)

BACHELOR OF INFORMATION SYSTEMS

- Undergraduate Thesis: An architecture to integrate GPS into web systems using Google Maps was supporting

Teresina, Brasil

Jun. 2008 - jun. 2012

Professional Experience

Núcleo de Excelência em Tecnologias Sociais (NEES)

SENIOR TEST ENGINEER

- Elaboration and execution of test scenarios;
- API testing using Karate, Postman and RestAssured;
- Exploratory testing;
- Web test automation using Selenium;
- Mobile test automation using Appium;
- Test and bug management and administration via ClickUp, Confluence and Jira;
- Development and extraction of reports for project and service quality metrics;
- Test monitoring using Testkube;
- Used tools: Testkube, Jira, Confluence, JMeter, K6, Postman, RestAssured, Grafana, Prometheus, GCP, Postman, and Appium.

Remote, Brasil

Jul. 2022 - Present

Universidade de São Paulo, USP

TEACHER ASSISTANT

- Produce and teach content for undergraduate courses.
- Courses: Software Testing and Inspection, Object Oriented Programming, Introduction to Computer Science, Software Engineering.

São Carlos, Brasil

Fev. 2016 - Dez. 2019

Universidade Virtual do Estado de São Paulo, UNIVESP

SUPERVISOR PROFESSOR

- Monitor the virtual student activities according to the course schedule, guiding the teaching mediators in the publications in the forums and other activities.

São Paulo, Brasil

Jun. 2016 - Out. 2017

Conselho Regional de Administração do Piauí, CRA-PI

INFORMATION TECHNOLOGY ADVISOR

- System development for process control; Build scripts to automate reporting; Monitoring and supervision tech interns; Built the institution's network infrastructure; Support and training to employees.
- Most used techs: Java, Python, MySQL, JEE, JSF, JPA, Ireport, JasperReports.

Teresina, Brasil

Jun. 2016 - Out. 2017

Tribunal Regional Eleitoral do Piauí, TRE-PI

INFORMATION TECHNOLOGY INTERN

- Complementary system development for support reporting of project control tool Redmine; Maintenance of the institution Spending Control System.
- Most used techs: Java, JSF, Primefaces, JPA, Hibernate, JDBC, Ireport, JasperReports.

Teresina, Brasil

Jul. 2011 - Jan. 2012

Conselho Regional de Administração do Piauí, CRA-PI

INFORMATION TECHNOLOGY INTERN

- Operation of internal control systems; Support staff; Computer Maintenance; Backup routine control.
- Most used techs: Java, Python, MySQL

Teresina, Brasil

Fev. 2010 - Fev. 2011

Skills

DevOps	Docker, Kubernetes, Gitlab CI
Back-end	Springboot, Django, REST API
Front-end	HTML5, CSS, Javascript, React
Programming	JAVA, Python, C#, C, LaTeX
Languages	Portuguese, English (B2)
Testing	Testkube, Selenium, JUnit, Infer, Pit, Pytest, Evosuite, Randoop, PMD, SpotBugs

Extracurricular Activity

Software Engineering Laboratory (LabES)

MEMBER

Brasil

Jan. 2013 - Present

- Gained expertise in software engineering field developing a wide range of research with several academic papers, focusing especially on software testing, software testing education and empirical software engineering.
- Participated on several academic conferences.

Open Source Development

ENTHUSIASTIC

Github

2015 - Present

- Part time contributor to some open source community projects on *Github*.

Força Junior Informática

MEMBER

Teresina, Brasil

Jan. 2009 - Jun. 2012

- Undergraduate junior company. Gained expertise in software development developing several web applications such as voting system, student control system, process control system.

Honors & Awards

INTERNATIONAL

2020	Finalist , Mentor recognition of excellence in mentoring on Technovation Girls program.	Online, U.S.A
2019	First Place , IEEE International Software Testing Contest, IEEE society.	Salvador, Brasil

DOMESTIC

2019	Recognition , One of the 8 candidates for the Best Paper prize of SVR 2019.	Rio de Janeiro, Brasil
2011	Recognition , Academic Merit for performance in the undergraduate Information Systems course	Teresina, Brasil

Program Committees

JOURNALS

2023	Technical Reviewer , Software Testing, Verification and Reliability Journal	Online
2022	Technical Reviewer , International Journal of Software Engineering and Knowledge Engineering	Online

CONFERENCES

2023	Technical Reviewer , 8th Brazilian Symposium on Systematic and Automated Software Testing	Campo Grande, Brasil
2023	Technical Reviewer , 16th IEEE International Conference on Software Testing, Verification and Validation	Dublin, Ireland
2023	Technical Reviewer , 8th International Workshop on Metamorphic Testing	Melbourne, Australia
2022	Technical Reviewer , 7th International Workshop on Metamorphic Testing	Pittsburgh, USA
2022	Technical Reviewer , 7th Brazilian Symposium on Systematic and Automated Software Testing	Uberlandia, Brasil
2021	Technical Reviewer , 6th International Workshop on Metamorphic Testing	Madrid, Spain
2021	Technical Reviewer , 6th Brazilian Symposium on Systematic and Automated Software Testing	Joinville, Brasil
2020	Technical Reviewer , 5th Brazilian Symposium on Systematic and Automated Software Testing	Natal, Brasil
2020	Technical Reviewer , 34th Brazilian Symposium on Software Engineering	Natal, Brasil
2020	Technical Reviewer , 10th A-TEST workshop	Singapore
2019	Technical Reviewer , Simpósio Iniciação Científica e Tecnológica da Universidade de São Paulo	São Carlos, Brasil
2017	Technical Reviewer , 1st Simpósio de Engenharia de Software	Dois Vizinhos, Brasil

Publications (Chronological Order)

REFEREED JOURNAL ARTICLES

- ACM Surveys** [1], JÚNIOR, MISAEL C. ; AMALFITANO, DOMENICO ; GARCÉS, LINA ; FASOLINO, ANNA RITA ;
2022 **ANDRADE, STEVÃO A.** ; DELAMARO, MÁRCIO . *Dynamic Testing Techniques of Non-Functional Requirements in Mobile Apps: A Systematic Mapping Study*. ACM COMPUTING SURVEYS, v. 1, p. 3507903, 2022. doi
- REIC** [1], BRITO, R. O. ; **ANDRADE, STEVAO A.** ; DELMARO, M. E. . *Uma Avaliação de técnicas e Critérios de Teste de Software para a Linguagem de Programação Python*. REVISTA ELETRÔNICA DE INICIAÇÃO CIENTÍFICA, v. 20, p. 1-16, 2022. doi
- IJSEKE** [1], DELAMARO, MÁRCIO E. ; **ANDRADE, STEVÃO A.** ; DE SOUZA, SIMONE R. S. ; DE SOUZA, PAULO S. L. . *Parallel Execution of Programs as a Support for Mutation Testing: A Replication Study*. INTERNATIONAL JOURNAL OF SOFTWARE ENGINEERING AND KNOWLEDGE ENGINEERING, v. 31, p. 337-380, 2021. doi
- CI** [1], **ANDRADE, STEVÃO A.** ; L. S. NUNES, FATIMA ; E. DELAMARO, MARCIO . *A fault-based testing approach for VR applications*. Comunicações em Informática, v. 3, p. 1-4, 2019. doi

BOOK CHAPTERS

- [1], OLIVEIRA, R. A. P. ; SOUZA, F. C. M. ; **ANDRADE, S. A.** ; MACIEL, A. C. ; FERRARI, F. C. ; DELAMARO, M. . *Ferramentas de Teste de Mutação*. In: Jose Maldonado, Marcio Delamaro, Auri Marcelo Rizzo Vincenzi. (Org.). *Automatização de teste de software com ferramentas de software livre*. 1ed.: Elsevier Brasil, 2018, v. , p. 1-256. doi
- [1], Souza, Francisco Carlos ; Santos, Alinne ; **Andrade, Stevão** ; Durelli, Rafael ; Durelli, Vinicius ; Oliveira, Rafael . *Automating Search Strings for Secondary Studies*. Advances in Intelligent Systems and Computing. 1ed.: Springer International Publishing, 2018, v. , p. 839-848. doi
- [1], COSTA JUNIOR, M. ; **ANDRADE, S. A.** ; DELAMARO, Márcio Eduardo . *Automatização de teste de software com ênfase em teste de unidade*. In: Universidade Federal do Piauí. (Org.). *II Escola Regional de Informática do Piauí: livro texto dos minicursos*. 1ed.Teresina: Sociedade Brasileira de Computação, 2016, v. 1, p. 121-143. doi

REFEREED CONFERENCE PAPERS (RESEARCH TRACK)

- SAST** [1], SANTOS, SEBASTIÃO H. N. ; DA SILVEIRA, BEATRIZ NOGUEIRA CARVALHO ; **ANDRADE, STEVÃO A.** ; DELAMARO, MÁRCIO ; SOUZA, SIMONE R. S. . *An Experimental Study on Applying Metamorphic Testing in Machine Learning Applications*. In: SAST 20: 5th Brazilian Symposium on Systematic and Automated Software Testing, 2020, Natal Brazil. Proceedings of the 5th Brazilian Symposium on Systematic and Automated Software Testing, 2020. p. 98. doi
- SVR** [1], **ANDRADE, STEVAO A.** ; QUEVEDO, ALVARO JOFFRE U. ; NUNES, FATIMA L. S. ; DELAMARO, MARCIO E. . *Understanding VR Software Testing Needs from Stakeholders' Points of View*. In: 2020 22nd Symposium on Virtual and Augmented Reality (SVR), 2020, Porto de Galinhas. 2020 22nd Symposium on Virtual and Augmented Reality (SVR), 2020. p. 57. doi
- MET** [1], **ALVES DE ANDRADE, STEVAO** ; SANTOS, ITALO ; BRITO JUNIOR, CLAUDINEI ; JUNIOR, MISAEL ; R.S. DE SOUZA, SIMONE ; E. DELAMARO, MARCIO . *On Applying Metamorphic Testing: An Empirical Study on Academic Search Engines*. In: 2019 IEEE/ACM 4th International Workshop on Metamorphic Testing (MET), 2019, Montreal. 2019 IEEE/ACM 4th International Workshop on Metamorphic Testing (MET), 2019. p. 9. doi
- SAST** [1], **ANDRADE, STEVÃO A.** ; BRITO, CLAUDINEI ; JÚNIOR, MISAEL ; MARCIEL, ANA CLAUDIA ; ABDALLA, GABRIEL ; DELAMARO, MÁRCIO E. . *Analyzing the effectiveness of One-Op Mutation against the minimal set of mutants*. In: the IV Brazilian Symposium, 2019, Salvador. Proceedings of the IV Brazilian Symposium on Systematic and Automated Software Testing - SAST 2019, 2019. p. 22. doi
- SBES** [1], DE ANDRADE, STEVÃO ALVES ; DE OLIVEIRA NEVES, VÂNIA ; DELAMARO, MÁRCIO EDUARDO . *Software Testing Education*. In: the XXXIII Brazilian Symposium, 2019, Salvador. Proceedings of the XXXIII Brazilian Symposium on Software Engineering - SBES 2019, 2019. p. 47. doi
- FIE** [1], AVELLAR, GUSTAVO M. N. ; SILVA, ROGERIO F. DA ; SCATALON, LILIAN P. ; **ANDRADE, STEVAO A.** ; DELAMARO, MARCIO E. ; BARBOSA, ELLEN F. . *Integration of Software Testing to Programming Assignments: An Experimental Study*. In: 2019 IEEE Frontiers in Education Conference (FIE), 2019, Covington. 2019 IEEE Frontiers in Education Conference (FIE), 2019. p. 1. doi
- SVR** [1], **ANDRADE, STEVAO A.** ; NUNES, FATIMA L. S. ; DELAMARO, MARCIO E. . *Towards the Systematic Testing of Virtual Reality Programs*. In: 2019 21st Symposium on Virtual and Augmented Reality (SVR), 2019, Rio de Janeiro. 2019 21st Symposium on Virtual and Augmented Reality (SVR), 2019. p. 196. doi