

# Lennon Corrêa Chaves

---

Manaus, AM, Brazil  
Phone: +55 (92) 99155-6510  
Email: lennon.correach@gmail.com  
Linkedin: <https://br.linkedin.com/in/lennonchaves>

## EDUCATION

### University of Oxford

Visiting Student, Department of Computer Science March 2017  
Project: *DSSynth: Synthesizing Digital Controllers Given Physical Plants.*  
Supervisor: Prof. Dr. Lucas Cordeiro and Prof. Dr. Daniel Kroening

### Federal University of Amazonas (UFAM)

M.Sc. in Electrical Engineering Present  
Project: *Formal Verification Applied to Attitude Control Software of Unmanned Aerial Vehicles*  
Supervisor: Prof. Dr. Lucas Carvalho Cordeiro

### Federal University of Amazonas (UFAM)

B.Sc. in Computer Engineering October 2015  
Project: *ProtectMe: An Android Application to Prevent Domestic Violence.*  
Supervisor: Prof. Dr. Eduardo James Pereira Souto  
Overall GPA: 8.1427

### Fundação Nokia de Ensino

Informatic Technician/High School December 2007  
Project 1: *Automation System to Inventory Control.*  
Project 2: *Desktop Platform to Support on Chemistry Lessons.*

## EXPERIENCE

### Software Engineer

June 2017 - Present

### Triad Institute

Manaus, Brazil

- Experience with Software Development, Agile Testing, Team Leadership;

### Visiting Student

February 2017 - March 2017

### University of Oxford

Oxford, United Kingdom

- Development of a MATLAB Toolbox to Support the Synthesis of Digital Controllers Given Physical Plants;
- Attended the Lecture “Probabilistic Machine Learning: Foundations and Frontiers” - Professor Zoubin Ghahramani (University of Cambridge);
- International Research Experience: attending meetings in research group;

### Research Student

October 2015 - Present

### UFAM - Federal University of Amazonas

Manaus, Amazonas, Brazil

- Courses attended: Real Time Systems, Digital Signal Processing, Linear Systems, Software and Systems Verification, Probability and Stochastic Process, Mathematical Morphology, Scientific Research Methodology, and Special Studies/Research Activities.

- Core competencies in Verification of Unmanned Aerial Vehicles, Software and Systems Verification, Software Engineering, Software Testing, and Control Systems;
- Research in Verification of Unmanned Aerial Vehicles, in order to check design implementations;
- Experience with MATLAB and Simulink tools, Digital Systems Simulation and Design, implementation of White-Box tests, and Development of Toolboxes to reproduce bugs found;
- Research in verification of C/C++ Programs via Mathematical Induction, and discrete-time systems as digital controllers and digital filters;
- Strong Experience with BMC tools as ESBMC, CBMC, CPAchecker, Ultimate Automizer, ESBMC using k-induction, in order to verify in C/C++ Programs properties about arithmetic under- and overflow, pointer safety, memory leaks, array bounds, atomicity and order violations, deadlock and data race;

*Systems Analyst*

December 2013 - January 2016

**FPF Tech - Fundação Paulo Feitoza**

Manaus, Amazonas, Brazil

- Experience with software development in Mobile, Desktop and Web Applications;
- Involved in projects using technologies as JavaScript, AngularJS, NodeJs, GruntJs, Bower, Oracle SQL, Bootstrap, Web Service RestFul, NetBeans, Eclipse and Java;
- Experience in projects using technologies as Android, Android Studio, SQLite, Material Design, XML, Canvas, SVG, Java, Unitary Testing, Automated Testing (Robotium), Mobile Testing;
- Enrolled in a project for industrial automation, using Ladder, Function Block Diagram, PLC Languages, Eclipse RCP, EMF, GMF, Graphiti;
- Experience with TDD (Test Driven Development), BDD (Behavior Driven Development), JUnit, Agile Testing, Exploratory Testing, Unitary Testing, Mockito, Git, GitLab, SourceTree, Maven, Gradle, Jenkins, Sonar, Docker, Bugzilla and Mantis;
- Experience as Team Leader/Scrum Master in order to coordinate and lead agile culture, sprint delivery, prioritize stories, acceptance criterias, daily meetings, learned lessons, testing activities, reviews and retrospective meetings;
- Team experience in agile methodologies (agile development, pair programming and agile testing) using Kanban and Scrum.

*Software Developer Trainee*

May 2013 - November 2013

**CITS Amazonas**

Manaus, Amazonas, Brazil

- Development of Android applications;
- Support on Database Management (SQL scripts, MySQL workbench management); Front-end development; Support on Exploratory Tests for development team; Support on Technical Reports and Documentation;
- Experience with Jira, SVN, Android, Java, MySQL, XML.

*Test Developer Intern*

May 2011 - July 2012

**INDT - Nokia Institute of Technology/UFAM**

Manaus, Amazonas, Brazil

- Participant in a R&D project with partnership between INDT and UFAM;
- Responsible for testing web applications;

- Creation of test cases, bug/defects tracking, record steps to reproduce tests, test management and tests regression;
- Working directly with INdT employees in mobile application tests (Windows Phone);
- Experience in Tests Automation (for Web Applications using Selenium RC);
- Tools to manage the tests: Bugzilla, Mantis, Testlink, Scrumy, FireScrum and Jira;
- Framework to automation testing: JUnit and Selenium RC;

## CERTIFICATIONS

- **Spanish Certificate**, Salamanca Idiomas Español, 2017
- **English Certificate**, ICBEU Manaus - Instituto Cultural Brasil Estados Unidos, 2016
- **ISTQB Certified Tester - CTFL**, Certified Tester Foundation Level, License 13-CTFL-02962-BR
- **Certified ScrumMaster - CSM**, Scrum Alliance, License 000383848

## LANGUAGES

- **English**: Professional Proeficiency
- **Spanish**: Limited Working Proeficiency
- **Portuguese**: Native Proeficiency

## COMMUNITY SERVICE

- Liter of Light Brazil**, *Volunteer* May 2017 - Present  
Operations and technology team. <https://www.litrodeluz.com/home>
- AIESEC in Brazil**, *National Team Leader* December 2012 - June 2013  
Development of national products to support team management. <https://aiesec.org/>
- AIESEC in Manaus**, *Vice President* January 2012 - December 2012  
Responsible for providing local trainings, team buildings and HR management.
- AIESEC in Manaus**, *Exchange Coordinator* March 2011 - November 2011  
Responsible for preparing and supporting exchange participants.

## EXTRA-CURRICULAR ACTIVITIES

- Campinas State University (UNICAMP)** August 2014 - December 2014  
*Extension Course in Pattern Recognition and Image Processing*
- FUCAPI** February 2013 - May 2013  
*Young Talents Project: Trainings in Java Programming*
- Federal University of Amazonas** May 2011 - July 2012  
*Researcher Student in Software Testing*
- Federal University of Amazonas** August 2010 - July 2011  
*Researcher Student in Human-Computer Interaction*
- Federal University of Amazonas** July 2009 - July 2010  
*Researcher Student in Software Engineering*
- Federal University of Amazonas** July 2009 - December 2009  
*Instructor in Algorithms and Data Structures Course*

## PUBLICATIONS

1. **Chaves, L.**, Bessa, I., Cordeiro, L., Kroening, D., Lima Filho, E. Verifying Digital Systems with MATLAB. In 26th ACM SIGSOFT International Symposium on Software Testing and Analysis (ISSTA), pp. 388-391, 2017. **(Published)**
2. Abate, A., Bessa, I., Cattaruzza, D., **Chaves, L.**, Cordeiro, L., David, C., Kesseli, P., Kroening, D., Polgreen, E. DSSynth: An Automated Digital Controller Synthesis Tool for Physical Plants. In 32nd IEEE/ACM International Conference on Automated Software Engineering (ASE), pp. 1-6, 2017. **(To Appear)**
3. **Chaves, L.**, Bessa, I., Ismail, H., Frutuoso, A., Cordeiro, L., Lima Filho, E. DSVerifier-Aided Verification Applied to Attitude Control Software in Unmanned Aerial Vehicles. In IEEE Transactions on Reliability, pp. 1-15, 2018. **(Submitted)**
4. **Chaves, L.**, Bessa, I., Cordeiro, L., Kroening, D. DSValidator: An automated counterexample reproducibility tool for digital systems. A 21st ACM International Conference on Hybrid Systems: Computation and Control, 2018. **(Submitted)**
5. Bessa, I., Ismail, H., Monteiro, F., **Chaves, L.**, Cordeiro, L. DSVerifier v2.0: A BMC Tool to Verify Fragility in Digital Systems with Uncertainties. In Science of Computer Programming, pp. 1-27, Elsevier, 2018. **(Submitted)**
6. Fernandes, P. **Chaves, L. C.** Bonifacio, B. Conte, T. *WE QT Tool: Uma Ferramenta de Apoio a Inspeção de Usabilidade de Aplicações Web*. In: X Brazilian Symposium on Human Factors in Computer Systems. (IHC 2011).
7. Gomes, M. Santos, D. **Chaves, L. C.** Castro, A. Vaz, V. Travassos, G. Conte, T. *WDP-RT: Uma técnica de leitura para inspeção de usabilidade de aplicações Web*. In: VI ESELAW Experimental Software Engineering Latin American Workshop, 2009, São Carlos. (ESELAW 2009).

## AWARDS

- **Funds to Attend CAV 2017:** Verification Mentoring Workshop, CAV 2017
- **Honorable Mention in the OBI 2006:** Student participant at National Computer Olympiads in 2006
- **National Awards of AIESEC in Brazil:** 1st place in Team Leader and Team Member Experiences Program (Annual Award)
- **National Awards of AIESEC in Brazil:** 1st place in Team Leader and Team Member Experiences Program (Semester Award)
- **National Awards of AIESEC in Brazil:** 1st place in Integrated Experiences Program (Annual Award)

## INTERNATIONAL CONFERENCES

- **Computer Aided Verification**  
Verification Mentoring Workshop

July, 2017  
Heidelberg - Germany

## PROFESSIONAL TRAINING

- Scrum Master, *FPF Tech, Manaus, Brazil*
- Test Driven Development, *FPF Tech, Manaus, Brazil*
- Design Patterns, *FPF Tech, Manaus, Brazil*
- JavaScript, CSS and HTML 5, *FPF Tech, Manaus, Brazil*
- Exploratory Tests, *FPF Tech, Manaus, Brazil*
- Software Testing Fundamentals, *FPF Tech, Manaus, Brazil*
- Android Development, *FPF Tech, Manaus, Brazil*
- Android Front End, *FPF Tech, Manaus, Brazil*
- Automated Tests for Android (Robotium), *FPF Tech, Manaus, Brazil*
- Behavior Driven Development, *FPF Tech, Manaus, Brazil*
- Automated Tests for Images with Sikuli, *FPF Tech, Manaus, Brazil*
- Automated Tests for Web with Selenium, *FPF Tech, Manaus, Brazil*
- MVP: Minimum Viable Product, *FPF Tech, Manaus, Brazil*
- PhoneGap (iwtraining - treinamentos), *FPF Tech, Manaus, Brazil*
- Cloud Testing: Workshop about testing tools in clouding (Qualister), *FPF Tech, Manaus, Brazil*
- Introduction to Docker, *FPF Tech, Manaus, Brazil*

## TECHNOLOGY SKILLS

*Programming Languages: C, C++, Python, Java, C#, JavaScript.*

*Web Backend Technologies: NodeJs, GruntJs, Bower, Oracle SQL, MySQL, Web Service RestFul*

*Web Frontend Technologies: AngularJS, JQuery, Bootstrap3.*

*Software Engineering: Agile, Continuous Integration, Scrum, Version control, Requirements analysis.*

*Software: Atlassian Suite, Git, VirtualBox, Bower, Eclipse, Netbeans, Android Studio.*

## INTERESTS

*Program Synthesis, Software Verification, Software Testing, Software Development, Agile Methodologies, Mobile Development, Embedded Systems, Unmanned Aerial Vehicles, Coaching, Leadership, Project Management, Software Engineering.*

## REFERENCES

- *Prof. Dr. Lucas Carvalho Cordeiro, University of Oxford, United Kingdom  
Telephone: +447393451110  
lucas.cordeiro@cs.ox.ac.uk*
- *Prof. Dr. Eddie Batista de Lima Filho, Federal University of Amazonas, Brazil  
Telephone: +5592988034148  
eddie.batista@yahoo.com.br*