

# Arthur Jacobs | Curriculum Vitae

Travessa da Paz #26, Apt. 202, 90040-100 – Porto Alegre, RS – Brazil

✉ asjacobs@inf.ufrgs.br • 🌐 <https://asjacobs92.github.io/>

Male, Brazilian citizen, born on 10/Sep/1992.

Second year PhD student in Computer Science, in the Federal University of Rio Grande do Sul. Passionate about science and development, with strong will to learn about a multitude of subjects, and to build impacting and complex projects. Research interests include network management, Network Functions Virtualization, self-driving networks, programmable networks and artificial intelligence.

## Education

- **PhD in Computer Science** **August 2017 – June 2021 (Expected)**  
*Federal University of Rio Grande do Sul* *Porto Alegre, RS — Brazil*
- **Study Abroad, Brazil Scientific Mobility Program** **January 2014 – December 2014**  
*University of Maryland* *College Park, MD — US*
- **BSc in Computer Science** **March 2011 – December 2016**  
*Federal University of Rio Grande do Sul* *Porto Alegre, RS — Brazil*

## Research Experience

- **Doctoral Researcher** **August 2017 – Current**  
*Networks Lab, Federal University of Rio Grande do Sul* *Porto Alegre, RS — Brazil*
  - Worked under the supervision of Prof. Lisandro Z. Granville, researching network management topics, such as Network Functions Virtualization and Software Defined Networking.
  - Developed an affinity metric for Virtualized Network Functions, to identify and prevent performance degradations and resource contention in virtualized Service Function Chains.
  - Constructed a refinement method for network intents expressed as natural language enabling operators to deploy network configurations using a conversational interface, such as Google Assistant.
- **Undergraduate Researcher** **August 2012 – May 2013**  
*Networks Lab, Federal University of Rio Grande do Sul* *Porto Alegre, RS — Brazil*
  - Worked under the supervision of, then, PhD student Cristiano B. Both, in a joint project with company Datacom Inc., researching on using artificial intelligence to generate alarms for network operators.
  - Developed monitoring web platform using Java, and the Vaadin web framework.
- **Undergraduate Researcher** **August 2011 – August 2012**  
*Networks Lab, Federal University of Rio Grande do Sul* *Porto Alegre, RS — Brazil*
  - Worked under the supervision of, then, PhD student Oscar M. Caicedo, researching on management on virtualized network using Mashup applications.
  - Investigated network virtualization background and related works on the research topic.

## Employment History

- **Software Developer** **May 2016 – September 2017**  
*ADP, LLC.* *Porto Alegre, RS — Brazil*
  - Acted as Software Architect on agile Discovery Teams, alongside a Development Leader and a Senior Product Owner, carrying out a leadership position in the development process.
  - Worked with several different Scrum teams, supporting the development of architected solutions, both in Progress 4GL and Java.
  - Worked closely with infrastructure teams, both in Brazil and Chile, to configure and manage execution environments of developed applications.

- Software Developer Intern**

  - **ADP, LLC.**
    - Developed Java application to deploy ADP's database information for the government project eSocial, using Spring and SOAP web services.
    - Developed a web portal to monitor the deployment application's health.

**September 2015 – May 2016**  
*Porto Alegre, RS — Brazil*
- Software Developer Intern**

  - **HCI Labs, University of Maryland**
    - Worked under the supervision of Prof. Mark Jacobs, in the Human-Computer Interactions labs of University of Maryland.
    - Developed Android version of the iOS app, Leafsnap, to identify trees and plants based on photos of leaves.

**May 2014 – August 2014**  
*College Park, MD — US*

## Research Publications

### Peer-Reviewed Conference Papers

- **A. S. Jacobs**, R. J. Pfitscher, R. L. dos Santos, M. F. Franco, E. J. Scheid and L. Z. Granville, "Artificial Neural Network Model to Predict Affinity for Virtual Network Functions", In *2018 IFIP/IEEE Network Operations and Management Symposium (NOMS)*, pages 1-9, Taipei, Taiwan (2018).
- R. J. Pfitscher, E. J. Scheid, **A. S. Jacobs**, M. F. Franco, R. L. dos Santos, A. E. Schaeffer-Filho and L. Z. Granville, "A Model for Quantifying Performance Degradation in Virtual Network Function Service Chains", In *2018 IFIP/IEEE Network Operations and Management Symposium (NOMS)*, pages 1-9, Taipei, Taiwan (2018).
- **A. S. Jacobs**, R. L. dos Santos, M. F. Franco, E. J. Scheid, R. J. Pfitscher and L. Z. Granville, "Affinity measurement for NFV-enabled networks: A criteria-based approach", In *2017 IFIP/IEEE Symposium on Integrated Network and Service Management (IM)*, pages 125-133, Lisbon, Portugal (2017).

### Peer-reviewed Journal Articles

- **A. S. Jacobs**, R. J. Pfitscher, R. A. Ferreira, L. Z. Granville, "Refining Network Intents for Self-driving Networks", In *ACM SIGCOMM Computer Communication Review*, Volume 48 Issue 5, To appear (2018).
- O. M. C. Rendon, C. R. P. dos Santos, **A. S. Jacobs** and L. Z. Granville, "Monitoring Virtual Nodes using mashups", In *Computer Networks*, Volume 64, pages 55 - 70 (2014).

### Posters, Workshops and Others

- **A. S. Jacobs**, R. J. Pfitscher, R. A. Ferreira, L. Z. Granville, "Refining Network Intents for Self-driving Networks", In *ACM SIGCOMM 2018 Workshop on Self-Driving Networks (SelfDN 2018)*, pages 15-21, Budapest, Hungary (2018).
- **A. S. Jacobs**, R. L. dos Santos, M. F. Franco, E. J. Scheid, R. J. Pfitscher, L. Z. Granville, "AMNESiA: Affinity measurement platform for NFV-enabled networks", In *2017 IFIP/IEEE Symposium on Integrated Network and Service Management (IM)*, pages 899-900, Lisbon, Portugal (2017).

## Technical skills

- </> **Programming Languages:** C, C++, C#, Java, PHP, JavaScript, HTML, CSS, Python, OCaml, Progress 4GL and SQL.
- 🔧 **Tools and Frameworks:** Git, SVN and Mercurial; Hibernate and ORMLite; Maven and Gradle; Spring; Bootstrap, JQuery and Underscore; Node.js, AngularJS, Ionic and Django.
- ☁️ **Databases:** Firebase, MongoDB, PostgreSQL, MySQL, Oracle and Progress.

## Language skills

- 🗣️ **Portuguese:** native.
- 🗣️ **English:** fluent.
- 🗣️ **Spanish:** advanced.
- 🗣️ **German:** basic.

## References

👤 **Lisandro Zambenedetti Granville**  
 🎓 Assoc. Professor of Computer Science  
 🏛️ Federal University of Rio Grande do Sul  
 ✉️ granville@inf.ufrgs.br

👤 **Ronaldo Alves Ferreira**  
 🎓 Assoc. Professor of Computer Science  
 🏛️ Federal University of Mato Grosso do Sul  
 ✉️ raf@facom.ufms.br