

# Ricardo Silva Carvalho

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## Education

- Ph.D. Computer Science, **Simon Fraser University (SFU)**, Canada *Jan. 2019 – Present*  
Research focus on Deep Learning and Differential Privacy.  
Advisor: Ke Wang GPA: 92%
- M.S. Computer Science, **University of Brasilia (UnB)**, Brazil *Aug. 2013 – Sep. 2015*  
Dissertation on Regularization Methods and PU Learning.  
Advisor: Rommel Novaes Carvalho GPA: 93%
- Certificate in Data Science, **University of Washington (UW)**, USA *Mar. 2016 – Dec. 2016*  
Professional Education Program on Data Science. GPA: 100%
- B.Eng. Computer Engineering, **Aeronautics Institute of Technology (ITA)**, Brazil *Jan. 2007 – Dec. 2011*  
Final essay on web development using JavaEE. GPA: 81%  
Advisor: Clovis Torres Fernandes

## Work Experience

- **Senior Data Scientist** – Brazil's Office of the Comptroller General (CGU) *Nov. 2012 – Dec. 2018*  
During this time also occupied the position of **Data Science Manager** *Apr. 2017 – Feb. 2018*
  - Conducted exploratory analysis using R and Python on government data to help managers' decisions.
  - Built predictive models with machine learning to prioritize auditing, detect fraud and assess risk.
  - As Manager of the Observatory of Public Spending (ODP), led around 15 people – amongst data scientists, business intelligence analysts, developers and others – on projects related to Data Science and Research.
- **Software Engineer** – Brazilian Air Force (FAB) *May 2010 – Nov. 2012*
  - Designed Data Warehouses ETL (Extract-Transform-Load) processes for large military databases.

## Recent Publications and Posters

- **R. S. Carvalho**, K. Wang, L. Gondara. Differentially Private Top-k Selection for Unknown Data Domain. To appear at the 23rd International Conference on Artificial Intelligence and Statistics (**AISTATS 2020**).
- L. Gondara, K. Wang, **R. S. Carvalho**. Winning Privately: The Differentially Private Lottery Ticket Mechanism. **POSTER**. In *Workshop on Machine Learning with Guarantees*, at the 33rd Conference on Neural Information Processing Systems (**NeurIPS 2019**).
- **R. S. Carvalho**, K. Wang. Privacy-Preserving Publication of Sensitive Data using Differentially Private GANs. **POSTER**. In British Columbia Artificial Intelligence Student Showcase (**BC AI Student Showcase 2019**).

**Complete list of publications (Google Scholar Profile):** <http://bit.ly/publications-ricardo>

## Awards and Achievements

- Helmut & Hugo Eppich Family Grad School Award, Simon Fraser University, 2020.
- Graduate Fellowship, Simon Fraser University, 2019.
- Academic Honors, Brazilian Air Force (FAB), 2010.
- BBM Fellowship, Algorithms and Data Structures, BBM Investment Bank, 2010.
- Academic Honors, Brazilian Air Force (FAB), 2009.
- CNPq Scholarship for Scientific Project, Aeronautics and Space Institute (IAE), 2009.
- CNPq Scholarship for Scientific Project, Aeronautics Institute of Technology (ITA), 2008.

## Teaching Experience

- **Teaching Assistant** – Simon Fraser University (SFU) *Jan 2019 – Apr. 2019*  
- Only TA for "CMPT 459 - Special Topics: Data Mining" (professor Martin Ester) with more than 80 students enrolled. Main duties were to: mark the assignments and the exams; assist the professor in preparing the solutions for the assignments, hold weekly office hours and answers student emails.
- **Professor** – University of Brasília (UnB) *May 2017 – Nov. 2018*  
– Volunteer professor on the Applied Computer Science Master's program at the Computer Science Department. Teaching course "Massive Data Mining", using R, Python, H2O.ai and Apache Spark.
- **Professor** – Federal University of Goiás (UFG) *Nov. 2017 – Mar. 2018*  
– Invited professor on the Specialization in Business Intelligence Solutions at the IT Department. Teaching course "Big Data Architecture and Big Analytics", with topics on HDFS, Hive, Apache Spark and MongoDB.
- **Teaching Assistant** – Aeronautics Institute of Technology (ITA) *Mar. 2010 – Jul. 2010*  
- Only TA for second-year engineer course "Algorithms and Data Structures" (professor Armando Nogueira).

## Languages

- English: Full Professional Proficiency – IELTS (both GT and AC): Overall 8 out of 9
- Portuguese: Native.

## Skills

- R, Python, TensorFlow, Spark, Java (some familiarity).