

Tiago Pimentel Martins da Silva

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1 Education

- University of Cambridge** *Oct. 2019 – May 2023*
PhD in Computer Science
Advisors: Ryan Cotterell and Simone Teufel
★ **Gates** Cambridge Scholar
- Universidade Federal de Minas Gerais (UFMG)** *GPA: 4.0/4.0* *March 2016 – Feb. 2018*
Master in Computer Science
Advisors: Adriano Veloso and Nivio Ziviani
Thesis: *Fast Node Embeddings: Learning Ego-Centric Representations*
- Universidade de Brasília (UnB)** *GPA: 4.669/5.0* *March 2009 – Dec. 2014*
B.E., Mechatronics Engineering
Advisor: Carla Koike
Monography: *Reinforcement Learning Applied to Behavior Selection in Autonomous Agents*
★ **Valedictorian**, highest GPA in class
- Washington University in St. Louis (WashU)** *GPA: 3.82/4.0* *Sept. 2012 – May 2013*
Non-degree, Computer Science
Brazil Scientific Mobility Program scholarship grantee

2 Journal Publications

- Phonotactic Complexity and its Trade-offs
T. Pimentel, B. Roark, and R. Cotterell
In: **TACL 2020**
- Detection of bimanual gestures everywhere: Why it matters, what we need and what is missing
D. Shah, E. Denicia, T. Pimentel, B. Bruno, and F. Mastrogiovanni
In: **Robotics and Autonomous Systems 2018**

3 Conference Publications

- Disambiguatory Signals are Stronger in Word-initial Positions
T. Pimentel, R. Cotterell, and B. Roark
Accepted at **EACL 2021**
- Speakers Fill Lexical Semantic Gaps with Context
T. Pimentel, R. Maudslay, D. Blasi, and R. Cotterell
Virtual presentation in **EMNLP 2020**
- Pareto Probing: Trading-Off Accuracy and Complexity
*T. Pimentel**, *N. Saphra**, *A. Williams*, and *R. Cotterell*
Virtual presentation in **EMNLP 2020**
- Information-Theoretic Probing for Linguistic Structure
T. Pimentel, J. Valvoda, R. Maudslay, R. Zmigrod, A. Williams, and R. Cotterell
Virtual presentation in **ACL 2020**
- Predicting Declension Class from Form and Meaning
A. Williams, T. Pimentel, A. McCarthy, H. Blix, E. Chodroff, and R. Cotterell
Virtual presentation in **ACL 2020**
- A Tale of a Probe and a Parser
R. Maudslay, J. Valvoda, T. Pimentel, A. Williams, and R. Cotterell
Virtual presentation in **ACL 2020**
- A Corpus for Large-Scale Phonetic Typology
E. Salesky, E. Chodroff, T. Pimentel, M. Wiesner, R. Cotterell, A. Black, and J. Eisner
Virtual presentation in **ACL 2020**

Deep Active Learning for Anomaly Detection

T. Pimentel, M. Monteiro, A. Veloso, and N. Ziviani

Virtual presentation in **IJCNN 2020**

Assessing the Reliability of Visual Explanations of Deep Models with Adversarial Perturbations

D. Valle, T. Pimentel, and A. Veloso

Virtual presentation in **IJCNN 2020**

Meaning to Form: Measuring Systematicity as Information

T. Pimentel, A. McCarthy, D. Blasi, B. Roark, and R. Cotterell

Oral presentation in **ACL 2019**

★ Nominated for the **best paper** award

Efficient estimation of node representations in large graphs using linear contexts

T. Pimentel, R. Castro, A. Veloso, and N. Ziviani

Oral presentation in **IJCNN 2019**

Fast and effective neural networks for translating natural language into denotations

T. Pimentel, J. Viana, R. Castro, A. Veloso, and N. Ziviani

Oral presentation in **SPIRE 2018**

Mapping planetary caves with an autonomous, heterogeneous robot team

A. Husain, H. Jones, B. Kannan, U. Wong, T. Pimentel, S. Tang, S. Daftry, S. Huber, and W. Whittaker

Poster in **IEEE Aerospace Conference 2013**

4 Conference Submissions

A Bayesian Framework for Information-Theoretic Probing

T. Pimentel, and R. Cotterell

Submitted to **NAACL 2021**

Finding Concept-specific Biases in Form–Meaning Associations

T. Pimentel, B. Roark, S. Wichmann, R. Cotterell, and D. Blasi

Submitted to **NAACL 2021**

How (Non-)Optimal is the Lexicon?

*T. Pimentel**, *I. Nikkarinen**, *K. Mahowald, D. Blasi, and R. Cotterell*

Submitted to **NAACL 2021**

A Non-Linear Structural Probe

J. White, T. Pimentel, N. Saphra, and R. Cotterell

Submitted to **NAACL 2021**

What About the Precedent: An Information-Theoretic Analysis of Common Law

J. Valvoda, T. Pimentel, N. Stoehr, R. Cotterell, and S. Teufel

Submitted to **NAACL 2021**

On Homophony and Rényi Entropy

T. Pimentel, C. Meister, S. Teufel, and R. Cotterell

Submitted to **ACL 2021**

Modeling the Unigram Distribution

I. Nikkarinen, T. Pimentel, D. Blasi, and R. Cotterell

Submitted to **ACL 2021**

Quantifying Gender Bias Towards Politicians in Cross-Lingual Language Models

K. Stanczak, S. Choudhury, T. Pimentel, R. Cotterell, and I. Augenstein

Submitted to **ACL 2021**

5 Workshop Publications

Fast node embeddings: Learning ego-centric representations

T. Pimentel, A. Veloso, and N. Ziviani

Poster in **ICLR 2018**

Denosing node embeddings

D. Chen, T. Pimentel, W. Brandão, A. Veloso, and N. Ziviani

Poster in **LatinX in AI (LXAI) at NeurIPS 2018**

Unsupervised and scalable algorithm for learning node representations

T. Pimentel, A. Veloso, and N. Ziviani

Poster in **ICLR 2017**

6 Work Experience

Data Scientist – Kunumi

March 2018 – Sep. 2019

- Designed an active anomaly detection tool for an insurance company client
- Restructured the code for a conversational agent implemented for a banking institution to facilitate future improvements
- Started an inner development program to capacitate employees in deep learning and natural language processing

Adjunct Lecturer – IESB

Aug. 2018 – April 2019

Lectured the *Unsupervised Learning* and *Reinforcement Learning* classes in the Artificial Intelligence postgraduate specialization (Lato Sensu)

Voluntary Teacher – EduBot

March 2014 – June 2015

Taught computer science and robotics to high school students from under-resourced public schools

Intern – Receita Federal Brasileira (RFB)

April 2014 – Sep. 2014

Developed a new automated tool to actively monitor systems availability

★ Second place in the **Creativity and Innovation Award** for the developed project

Intern – Intelligrated Systems

May 2013 – Aug. 2013

Interfaced a Motoman robot with Python and C++ code using ROS-industrial

Summer Scholar – Carnegie Mellon University (CMU)

June 2012 – Aug. 2012

Worked in an heterogeneous multi-robot exploration research project

7 Languages and Skills

Portuguese Native

English Fluent

Italian Intermediate

French Elementary

Japanese Beginner

Python 😊😊😊😊😊

C/C++ 😊😊😊

MatLab 😊😊

Java 😊😊

PyTorch 😊😊😊😊😊

Scikit-learn 😊😊😊😊

TensorFlow 😊😊😊

ROS 😊😊