

# jesús calvillo

PhD Student in Computational Psycholinguistics

## contact

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## languages

Spanish (native)  
English (toefl 109)  
German (B2)  
French (B2)

## programming

Java, Python  
Perl, Bash  
HTML, CSS, JavaScript

## operating systems

Linux, Windows  
Mac OS

## education

- 2014-Present **PhD studies** in Computational Psycholinguistics Saarland University, Germany  
The research is focused on modeling of human language production using artificial recurrent neural networks and with special emphasis on information theory.
- 2011–2013 **Master of Science** in Language Science and Technology Saarland University, Germany  
*A Rational Statistical Parser*  
The thesis presented the implementation of a rational model of syntactic parsing, exploring the role of entropy for syntactic disambiguation.
- 2004–2009 **Bachelor of Science** in Computer Engineering Technological Institute of Morelia, Mexico  
Specialization in Software Engineering

## experience

- 2013–2015 **German Research Center for Artificial Intelligence (DFKI)** Saarbrücken, Germany  
*Assistant Scientist: Java Development for NLP*  
Development of a java application towards Argumentation Mining. The system was designed from scratch integrating several nlp systems; including pos-tagging, named entity recognition, lemmatization, among others. With these features, an information retrieval system was obtained that takes into account thematic and argumentative patterns during search.
- 2012 **Cluster of Excellence: Multimodal Computing and Interaction** Saarbrücken, Germany  
*Assistant Scientist: Python Development for Psycholinguistics*  
Developed a Python tool that interfaces with the Stanford Parser, generating the Integration and Storage Costs related to each word of a sentence. The objective was to see if there is a correlation between these psycholinguistic measures and fixation times of eye-tracking experimental data.
- 2011 **IBM** Guadalajara, Mexico  
*Programmer and System Administrator*  
Developed a Perl-JavaScript tool that generates performance web reports out of log files of storage servers. My area was dedicated to provide technical support service to massive storage Servers sold by IBM. This was done performing forensic analysis on the log data sent by the customers as well as System Administration tasks. The created tool provides graphics and statistics that enable a fast performance analysis and problem resolution.
- 2009–2011 **DomainGurus** Morelia, Mexico  
*System Administrator and Programmer*  
Performed Technical Support for 3 datacenters placed in San Diego, California. The support was done in situ or remotely, with training in San Diego every 2 or 3 months for 1 month each time. The main language was English given the international customers. The servers were mainly Linux and Windows as well as FreeBSD and 3Tera Applogic. The main tasks were related to connectivity, databases, web programming, DNS, virtualization, web and mail servers, and Cloud Computing.

## teaching

- 2013–2017 **T.A. Computational Psycholinguistics**  
Saarland University, Germany
- 2016 **T.A. Connectionist Language Processing**  
Saarland University, Germany
- 2015 **T.A. Mathematical Foundations for Computational Linguistics III**  
Saarland University, Germany
- 2015, 2017 **T.A. Information Theory for Computational Linguistics**  
Saarland University, Germany
- 2013 **Block course on Computational Linguistics**  
Technological Institute of Morelia, Mexico

## awards and certifications

- 2011–Present **Postgraduate Scholarship** National Council of Science and Technology, Mexico  
Scholarship for master and phd studies
- 2009 **Premio Padre de la Patria** University of Michoacan, Mexico  
Best grades in the Languages Department for English, French and German
- 2009 **Certification: 3Tera Cloud Architect** 3Tera, Washington D.C., USA  
Cloud and Grid Computing

## interests

**professional:** computational psycholinguistics, computational linguistics, psycholinguistics, natural language processing, cognitive science, machine learning, big data, deep learning, neural networks, syntax, semantics, information theory, artificial intelligence **personal:** swimming, books, cooking, films, travels.

## publications

Fast and Easy: Approximating Uniform Information Density in Language Production

Calvillo, J.

*Proceedings of the 39th Annual Conference of the Cognitive Science Society, Austin, TX: Cognitive Science Society, 2017*

Connectionist Semantic Systematicity in Language Production

Calvillo, J.; Brouwer, H., and Crocker, M. W.

*Proceedings of the 38th Annual Conference of the Cognitive Science Society, Austin, TX: Cognitive Science Society, 2016*

Connectionist Semantic Systematicity in Language Production

Calvillo, J.; Brouwer, H., and Crocker, M. W.

*Poster presented at the 15th Neural Computation and Psychology Workshop, Philadelphia, PA, USA, 2016*

Konzeption und Implementierung eines Werkzeuges zur automatisierten Identifikation und Analyse von Argumentationsstrukturen anhand der Entscheidungen des Bundesverfassungsgerichts im Digital-Humanities-Projekt ARGUMENTUM

Houy, C.; Niesen, T.; Calvillo, J.; Fettke, P.; Loos, P.; Krämer, A.; Schmidt, K.; Herberger, M.; Speiser, I.; Gass, A.; Schneider, L., and Philippi, T.

*Datenbank-Spektrum (2015) pp. 1–9. Springer Berlin Heidelberg, 2015*

A Rational Statistical Parser

Calvillo, J. and Crocker, M.

*Proceedings of Natural Language Processing and Cognitive Science NLPSCS 2014, 2014, Venice, Italy*

Konzept und Architektur eines Software-Werkzeuges zur automatisierten Identifikation und Analyse von Argumentationsstrukturen

Houy, C.; Niesen, T.; Calvillo, J.; Fettke, P., and Loos, P.

*Gemeinsam Electronic Government (ziel)gruppengerecht gestalten und organisieren*, 2014