

Alejandro Benito-Santos

Curriculum Vitae

Short Bio

Hello! I am Alejandro, a **research assistant, lecturer and PhD. student** at the Department of Computer Science and Automation at the University of Salamanca (Spain). I used to work as a freelance consultant but after some time I went back to university to start a PhD in data visualization. I completed my **BSc in Computer Engineering** at the same university, from which I also obtained an **MSc in Intelligent Systems** in 2016. Now I am a member of the Visual Analytics Group VisUSAL (within the Recognized Research Group GRIAL), where I am currently completing my thesis under the supervision of Dr. Roberto Therón. I investigate on how **visual text analytics can accelerate problem-driven visualization research** by helping users to find **visualizations that can be reused across different knowledge domains** such as digital humanities, sports science, linguistics or bioinformatics. My other research interests lie in the areas of **human-computer interaction (HCI)**, **design**, **statistics** and **education**. Actually, I've had the chance to **teach HCI and introduction to python programming for statisticians** at the Faculty of Sciences of Salamanca in the past, which I enjoyed a lot. Finally, and while I am not working on my thesis or research projects, I spend my time with my 2 year-old son and, sometimes, rehearsing with my reggae band. **Thanks for reading my CV!**

Educational Background

2016
2020

PhD Information Visualization (expected summer 2021), *Visual Analytics and Information Visualization Group (hereafter VisUSAL) - Department of Computer Science and Automation. University of Salamanca, Salamanca, Spain.*

2015
2016

MSc Intelligent Systems, *Department of Computer Science and Automation. University of Salamanca, Salamanca, Spain.*

2008
2010

MSc Computer Engineering, *Department of Informatics. University of Valladolid, Valladolid, Spain.*

2004
2008

BSc Computer Engineering, *Department of Computer Science and Automation. University of Salamanca, Salamanca, Spain.*

Theses

PhD Thesis

TITLE Supporting Methodology Transfer in Problem-Driven Visualization Research via Literature-Based Discovery (expected Q2-Q3 2021).
ADVISOR Professor Dr. Roberto Therón Sánchez.
INSTITUTION University of Salamanca (Spain).

MSc Thesis

TITLE La Visualización de Datos en las Humanidades Digitales (Data Visualization in Digital Humanities) [BSTS16]
ADVISOR Professor Dr. Roberto Therón Sánchez.
GRADE A with Hons.
INSTITUTION University of Salamanca (Spain).

BSc Thesis

TITLE Cheexe: A P2P-distributed Picture Database.
ADVISORS Professor Dr. José Rafael García-Bermejo Giner.
GRADE A
INSTITUTION University of Salamanca (Spain).

Research Projects

2018
2021

PROVIDEDH: Progressive Visual Decision-Making in Digital Humanities, <https://providedh.eu/>, **IP:** Roberto Therón Sánchez - theron@usal.es, **Funding agency:** European Union (CHISTERA), Spanish Ministry of Economic Affairs and Digital Transformation.

I am responsible for designing and implementing uncertainty-aware visual analytics solutions for the digital humanities data analysis pipeline. I also act as a proxy to coordinate the efforts of the other 3 partners involved in the project. Lately, I've been experimenting a lot with visualization of NLP (word2vec, LDA, LSA) and machine-learning models (using libraries such as scikit, nltk or scipy) in interactive notebooks (Jupyter, Observable). I've made things in altair, plot.ly, vega-lite, d3.js, seaborn and bokeh.

2016
2019

ExploreAT: Exploring Austria's Culture through the Language Glass, <https://www.oeaw.ac.at/acdh/projects/exploreat/>, **IP:** Eveline Wandl-Vogt - eveline.wandl-vogt@oeaw.ac.at, **Funding agency:** Austrian Center for Digital Humanities - Austrian Academy of Sciences.

In this project, I worked with experts in lexicography to create visual analytics tools for exploring historical lexicographic artifacts (such as dictionaries) according to different dimensions (spatial, temporal, textual). During the time the project lasted, I had the chance to learn new technologies such as React, D3.js, Python and TEI-XML.

Research Visits

2016

Short-Term Scientific Mission, *Austrian Centre for Digital Humanities (ACDH)*, Austrian Academic of Sciences, Vienna, Austria, 6-11 November 2016.

Funding agency: European Network of e-Lexicography through COST H2020.

2019

Visiting Researcher, *Poznan Supercomputing and Network Centre (PSNC)*, Institute of Bioorganic Chemistry of the Polish Academy of Sciences, Poznan, Poland, August - November (4 months) 2019.

Funding agency: European Union (CHISTERA), Spanish Ministry of Economic Affairs and Digital Transformation.

Teaching Experience

Teaching Assistant

2018

Human-Computer Interaction, *Department of Computer Science and Automation*, University of Salamanca, Spain.

BSc Computer Engineering (3rd course)

2017

Informatics I, *Department of Computer Science and Automation*, University of Salamanca, Spain.

BSc Statistics (1st course)

Learning Resources

2017

Informatics I - BSc Statistics (1st course), *Development of course syllabus and learning infrastructure*, Evaluated a methodology for teaching programming at introductory levels based on Jupyter Notebooks, Published results at JENUI, the Spanish Conference of Lecturers in Computer Science [BST19].

<https://github.com/grialusal/materiales-informatica-i>

Invited Talks

2017

Exposing Cultural Heritage through Computer Screens: The Role of User-centered Design in the DH., *The final conference of the ENeL COST Action.*, European Network of e-Lexicography., Leiden, The Netherlands.

Other Professional Experiences

2013
2016

Freelance Digital Consultant, *Self-Employed*, London and Madrid, United Kingdom and Spain.

I worked as a freelance digital consultant for some years, implementing integral solutions for clients in Spain, UK and USA.

2013

Senior UX Designer and Mobile Developer, *BetVictor*, Gibraltar, United Kingdom.

I was responsible for coordinating a team of 4 mobile developers to port the existing codebase to iPad devices. I worked in tight collaboration with the Design Team to reengineer the whole user experience of the platform. I also implemented a user analytics framework during my time there.

2012
2013

Junior UX Designer and Mobile Developer, *Floxx Media Ltd.*, London, United Kingdom.

I worked at the Wayra-sponsored startup Floxx as a Mobile Developer and UX Designer. I learned cocos2d (an Objective-C-based game engine and framework) and implemented other solutions in HTML, CSS and Javascript.

2011
2012

UX Designer and Mobile Developer Intern, *Concise Media Design*, London, United Kingdom.

This was my first job after graduating. I was responsible for implementing bespoke mobile applications for live events in a fleet of +1000 iPads. I used HTML, CSS, Javascript and Objective-C.

Languages

Spanish Native

English Fluent

TOEFL Test 109/120 2008 (C1)

Affiliations

IEEE Junior Member (since 2018)

Publications

- [BDT⁺18] Alejandro Benito, Amelie Dorn, Roberto Therón, Eveline Wandl-Vogt, and Antonio Losada. Shedding Light on Indigenous Knowledge Concepts and World Perception through Visual Analysis. In *Digital Humanities 2018 Book of Abstracts*, 2018.
- [BLGTS⁺20] A. Benito-Santos, Antonio G. Losada Gómez, Roberto Theron Sánchez, Eveline Wandl-Vogt, and Amelie Dorn. An Interactive Visualization of the Historical Dictionary of Bavarian Dialects in Austria. In *LingVis: Visual Analytics for Linguistics*, pages 181–212. CSLI Publications, Stanford University, USA, center for the study of language and information edition, 2020. In press.
- [BLT⁺16] Alejandro Benito, Antonio G. Losada, Roberto Therón, Amelie Dorn, Melanie Seltmann, and Eveline Wandl-Vogt. A Spatio-temporal Visual Analysis Tool for Historical Dictionaries. In *Proceedings of the Fourth International Conference on Technological Ecosystems for Enhancing Multiculturality*, pages 985–990. ACM, 2016.
- [BST19] Alejandro Benito, Rodrigo Santamaría, and Roberto Therón. Evaluación de una metodología novel basada en cuadernos interactivos para el aprendizaje de la programación en Python. *Actas de las Jornadas sobre Enseñanza Universitaria de la Informática*, 4(0), 2019.
- [BSTS16] Alejandro Benito Santos and Roberto Therón Sánchez. *Visualización de Datos En Humanidades Digitales*. Tesis de Master, Universidad de Salamanca, España, 2016.
- [BTL⁺17] Alejandro Benito, Roberto Therón, Antonio Losada, Eveline Wandl-Vogt, and Amelie Dorn. Exploring Lemma Interconnections in Historical Dictionaries.

In *Proc. 2nd Workshop on Visualization for the Digital Humanities (VIS4DH)*, 2017. co-located with IEEEVIS 2017.

- [BTS19] A. Benito-Santos and R. Therón Sánchez. Cross-domain visual exploration of academic corpora via the latent meaning of user-authored keywords. *IEEE Access*, 7:98144–98160, 2019. JCR 2019 4.098.
- [BTS20] Alejandro Benito-Santos and Roberto Therón Sánchez. A Data-Driven Introduction to Authors, Readings and Techniques in Visualization for the Digital Humanities. *IEEE Computer Graphics and Applications*, pages 1–1, 2020. JCR 2019 1.725.
- [DWA⁺18] Amelie Dorn, Eveline Wandl-Vogt, Yalemisew Abgaz, Alejandro Benito Santos, and Roberto Therón. Unlocking cultural conceptualisation in indigenous language resources: Collaborative computing methodologies. In Claudia Soria, Laurent Besacier, and Laurette Pretorius, editors, *Proceedings of the LREC 2018 Workshop CCURL 2018*, Miyazaki, Japan, May 2018. ELRA.
- [DWP⁺19] Amelie Dorn, Eveline Wandl-Vogt, Thomas Palfinger, Roberto Theron, Andy Way, Yalemisew Abgaz, Alejandro Benito, and Antonio Losada. A project review under the focus of complexities on the example of ExploreAT! In *Digital Humanities 2019 Conference Papers*, Utrecht, 2019.
- [LTB16] Antonio G Losada, Roberto Therón, and Alejandro Benito. Bkviz: A Basketball Visual Analysis Tool. *IEEE Computer Graphics and Applications*, 36(6):58–68, 2016. Presented at IEEEVIS 2016, Phoenix. USA.
- [RDBD⁺19] Alejandro Rodríguez Díaz, Alejandro Benito-Santos, Amelie Dorn, Yalemisew Abgaz, Eveline Wandl-Vogt, and Roberto Therón. Intuitive Ontology-Based SPARQL Queries for RDF Data Exploration. *IEEE Access*, 7:156272–156286, 2019. JCR 2019 4.098.
- [SSVG19] Roberto Therón Sánchez, Alejandro Benito Santos, Rodrigo Santamaría Vicente, and Antonio Losada Gómez. Towards an Uncertainty-Aware Visualization in the Digital Humanities. *Informatics*, 6(3):31, September 2019.