

## Josep Valls-Vargas

4 Belvidere Pl. # 2, Cambridge MA 02139 ■ (+1) (484) 202-0240 ■ josep@valls.name ■ http://josep.valls.name

### Education

---

Ph.D. in Computer Science. Drexel University, Philadelphia, PA. Sept. 2012 – Dec. 2017 (GPA 3.95).

M.S. in Computer Science. Drexel University, Philadelphia, PA. Sept. 2012 – Jun. 2015 (GPA 3.87).

M.S. in Computer Vision and Artificial Intelligence. UAB. Bellaterra, Spain. Sept. 2010 – Sept. 2011.

B.S. in Computer Science/Inf. Systems Management. UAB. Sabadell, Spain. Sept. 2006 – Jun. 2010.

### Work Experience

---

Applied Scientist. Amazon. Cambridge, MA. Dec. 2017 (Current).

- Automatic detection and resolution of friction in Alexa interactions.

Machine Learning/Applied Scientist Intern. Amazon. Cambridge, MA. Jun 2016 – Sept. 2016.

- Alexa Science Team: Improved ML pipeline using automated detection of conflicts in annotations.

Co-Founder, Lead developer. ReferUp S.L. Barcelona, Spain. Jun. 2009 – Jan. 2013.

- Lead developer, coordinated a team of 4 and external contractors, 3.5M€ investment as of April 2017
- Software architecture and artificial intelligence consultant Jan. 2013 – Dec. 2014.

Software developer. CreateSpace (Amazon). Scotts Valley, CA. Nov. 2008 – Jun. 2009.

- Software development. Technical support to internal customers and Amazon.com partners.

Web Development Intern. Pingsta. Redwood city, CA, USA. Oct. 2008 – Nov. 2008.

- Back-end web development. Ruby on Rails.

Software developer. Doom Software. Terrassa, Barcelona, Spain. Mar. 2001 – Dec. 2006.

- CRM, POS and inventory management software. Analysis, design, implementation and support.

### Peer-Reviewed Publications

---

J. Valls-Vargas, J. Zhu, S. Ontañón (2017). **Narrative Information Extraction with Non-Linear Natural Language Processing Pipelines**. PhD thesis at Drexel University.

J. Valls-Vargas, J. Zhu and S. Ontañón (2017). **Towards End-to-end Natural Language Story Generation Systems**. INT 2017.

S. Ontañón, J. Zhu, B. K. Smith, B. Char, E. Freed, A. Furqan, M. Howard, A. Nguyen, J. Patterson, J. Valls-Vargas (2017). **Designing Visual Metaphors for an Educational Game for Parallel Programming**. In ACM CHI 2017 (Extended abstract).

J. Valls-Vargas, J. Zhu, S. Ontañón (2017). **Graph Grammar-based Controllable Generation of Puzzles for a Learning Game about Parallel Programming**. In FDG 2017.

J. Valls-Vargas, J. Zhu, S. Ontañón (2017). **From Computational Narrative Analysis to Generation: A Preliminary Review**. In FDG 2017.

J. Valls-Vargas, J. Zhu, S. Ontañón (2017). **Towards Automatically Extracting Story Graphs from Natural Language Stories**. In AAI WNAIG 2017.

S. Ontañón, J. Valls-Vargas, J. Zhu (2017). **Bridging the Gap Between Computational Narrative and Natural Language Processing**. In AAI WNAIG 2017.

J. Valls-Vargas, J. Zhu, S. Ontañón (2016). **Predicting Propian Narrative Functions from Stories in Natural Language**. In AIIDE 2016.

## Josep Valls-Vargas

4 Belvidere Pl. # 2, Cambridge MA 02139 ■ (+1) (484) 202-0240 ■ josep@valls.name ■ http://josep.valls.name

J. Valls-Vargas, J. Zhu, S. Ontañón (2016). **Error Analysis in an Automated Narrative Information Extraction Pipeline**. In IEEE Transactions on Computational Intelligence and AI in Games.

J. Valls-Vargas, S. Ontañón, J. Zhu (2015). **Exploring Player Trace Segmentation for Dynamic Play Style Prediction**. In AIIDE 2015.

J. Valls-Vargas, J. Zhu, S. Ontañón (2015). **Narrative Hermeneutic Circle: Improving Character Role Identification from Natural Language Text via Feedback Loops**. IJCAI 2015.

J. Valls-Vargas, A. Kahl, J. Patterson, G. Muschio, A. Foster, J. Zhu (2015). **Designing and Tracking Play Styles in Solving the Incognitum**. In GLS 2015.

J. Valls-Vargas, J. Zhu, S. Ontañón (2014). **Toward Automatic Role Identification in Unannotated Folk Tales**. In AIIDE 2014.

J. Valls-Vargas, S. Ontañón, J. Zhu (2014). **Toward Automatic Character Identification in Unannotated Narrative Text**. In INT 7 at ELO 2014.

J. Valls-Vargas, S. Ontañón, J. Zhu (2013). **Toward Character Role Assignment for Natural Language Stories**. In INT6 at AIIDE 2013.

J. Valls-Vargas, S. Ontañón, J. Zhu (2013). **Towards Story-Based Content Generation: From Plot-Points to Maps**. In CIG 2013.

J. Valls-Vargas and S. Ontañón (2012). **Natural Language Generation through Case-based Text Modification**. In ICCBR 2012.

J. Valls-Vargas and S. Ontañón (2011). **Text Modification Methods for Natural Language Generation**. Master's thesis at UAB.

## Projects

---

Voz research project. Drexel University. Mar. 2013 – Dec. 2017.

- NLP pipeline for narrative information extraction. Python, NLTK; Java, Weka, Stanford CoreNLP and Apache OpenNLP. Semantic knowledge from WordNet, ConceptNet and PropBank.
- Web services and user interface. Webapp2, Google App Engine, HTML/CSS.

“Parallel” research project. Drexel University. Sept 2015 – Dec. 2017.

- Learning game for parallel programming with procedural content generation. Java, Unity 3D.

TAEMILE research project. Drexel University. Mar. 2013 – Aug. 2015.

- Adaptive interactive learning environment for earth sciences. Unity 3D, C#.
- UI, real-time telemetry storage and visualization. Python, Google App Engine, jQuery, HTML/CSS.

Story2Map research project. Drexel University. Summer 2013.

- Map generator for stories from a story space defined as plot points. Python, PDDL.

Case Based Text Adaptation (CeBeTA). Universitat Autònoma de Barcelona. Summer 2012.

- Text realization module to improve the output of the Riu interactive narrative system. Python, Lisp.

www.sntalent.com. ReferUp S.L. Jun. 2009 – Dec. 2014.

- Full stack development. PHP, Drupal, MySQL, Apache Solr, jQuery, HTML/CSS.
- Tools and development support using Python and Ruby.

## Josep Valls-Vargas

4 Belvidere Pl. # 2, Cambridge MA 02139 ■ (+1) (484) 202-0240 ■ josep@valls.name ■ http://josep.valls.name

### Teaching and Mentoring

---

Mentor for PhillyCodefest (Drexel University, February 2017)

Mentor for RETHink at Drexel University (Summer 2015)

Teaching Assistant for CS 338 - Graphical User Interfaces (Winter 2015)

Teaching Assistant for CS 140 - Multimedia Programming (Fall 2014)

Teaching Assistant for Drexel University Computing Academy (Summer 2013)

Teaching Assistant for CS 171 - Computer Programming I (Winter 2013)

Teaching Assistant for CS 164 - Introduction to Computer Science (Fall 2012)

### Service and Involvement

---

Reviewer/subreviewer: ICCV 2017, WNAIG 2017, IJCAI 2016, AAMAS 2016, AIIDE 2015, INT8 2015, FDG 2015, ICIDS 2013

Treasurer, activity coordinator. Drexel Chapter of Upsilon Pi Epsilon. Fall 2014 – Summer 2016.

### Awards

---

Special Recognition award by Upsilon Pi Epsilon, International Honor Society for the Computing and Information Disciplines. Sept. 2015.

Undergraduate valedictorian and extraordinary academic achievement award by the School of Engineering at the Universitat Autònoma de Barcelona. Sabadell, Spain. Feb. 2011.

Honors in engineering graduation project “Platform for talent search using open source solutions and Web 2.0”. Sabadell, Spain. May 2010.

Top award for the computer science and engineering project poster symposium. School of Engineering of Universitat Autònoma de Barcelona. Sabadell, Spain. May 2010.

Dean's and Chancellor's Undergraduate Awards for the “GPX Cleaner” software engineering project. Education abroad at University of California at Santa Cruz, CA. Jun. 2008.