

# Miguel Velez

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## Publications

### Books

- [9] Amy Brown and Greg Wilson. *The Architecture of Open Source Applications, Volume II. The Architecture of Open Source Applications v. 2.* Kristian Hermansen, 2012.
- [8] Amy Brown and Greg Wilson. *The Architecture of Open Source Applications, Volume I. The Architecture of Open Source Applications v. 1.* CreativeCommons, 2011.
- [7] Frederick P. Brooks. *The Design of Design: Essays from a Computer Scientist.* 1st. Addison-Wesley Professional, 2010.
- [6] Peter Feiler, Kevin Sullivan, Kurt Wallnau, Richard Gabriel, John Goodenough, Richard Linger, Thomas Longstaff, Rick Kazman, Mark Klein, Linda Northrop, and Douglas Schmidt. *Ultra-Large-Scale Systems: The Software Challenge of the Future.* Software Engineering Institute, Carnegie Mellon University, 2006.
- [5] Paul Clements, Bachmann Felix, Len Bass, David Garlan, James Ivers, Reed Little, Paulo Merson, Robert Nord, and Judith Stafford. *Documenting Software Architectures: Views and Beyond.* Pearson Education, 2002.
- [4] Mary Shaw and David Garlan. *Software Architecture: Perspectives on an Emerging Discipline.* Upper Saddle River, NJ, USA: Prentice-Hall, Inc., 1996.
- [3] Herbert A. Simon. *The Sciences of the Artificial (3rd Ed.)* Cambridge, MA, USA: MIT Press, 1996.
- [2] Erich Gamma, Richard Helm, Ralph Johnson, and John Vlissides. *Design Patterns: Elements of Reusable Object-oriented Software.* Boston, MA, USA: Addison-Wesley Longman Publishing Co., Inc., 1995.
- [1] Daniel P. Siewiorek, C. Gordon Bell, and Allen Newell. *Computer structures: principles and examples.* McGraw-Hill computer science series. McGraw-Hill, 1987. Chap. 2, Levels and Abstraction.

## Refereed Journal Articles

- [16] Jeffrey M. Barnes, David Garlan, and Bradley Schmerl. "Evolution Styles: Foundations and Models for Software Architecture Evolution". In *Softw. Syst. Model. (SoSyM)* 13.2 (May 2014), pp. 649–678.
- [15] Joshua Sunshine, Karl Naden, Sven Stork, Jonathan Aldrich, and Éric Tanter. "First-class State Change in Plaid". In *SIGPLAN Notices* 46.10 (Oct. 2011), pp. 713–732.
- [14] Gordon Bell and Daniel P. Siewiorek. "The Book Computer Structures: Thoughts After 40 Years". In *IEEE Ann. Hist. Comput.* 33.2 (Apr. 2011), pp. 89–95.
- [13] Willemien Visser. "Designing as construction of representations: A dynamic viewpoint in cognitive design research". In *Human–Computer Interaction* 21.1 (2006), pp. 103–152.
- [12] Bradley Schmerl, Jonathan Aldrich, David Garlan, Rick Kazman, and Hong Yan. "Discovering Architectures from Running Systems". In *IEEE Trans. Softw. Eng. (TSE)* 32.7 (July 2006), pp. 454–466.
- [11] Joseph F. Maranzano, Sandra A. Rozsypal, Gus H. Zimmerman, Guy W. Warnken, Patricia E. Wirth, and David M. Weiss. "Architecture Reviews: Practice and Experience". In *IEEE Softw.* 22.2 (Mar. 2005), pp. 34–43.
- [10] David Garlan, Shang-Wen Cheng, An-Cheng Huang, Bradley Schmerl, and Peter Steenkiste. "Rainbow: Architecture-Based Self-Adaptation with Reusable Infrastructure". In *Computer* 37.10 (Oct. 2004), pp. 46–54.
- [9] Gail C. Murphy and David Notkin. "Reengineering with Reflexion Models: A Case Study". In *Computer* 30.8 (Aug. 1997), pp. 29–36.
- [8] David Garlan, Robert Allen, and John Ockerbloom. "Architectural Mismatch: Why Reuse Is So Hard". In *IEEE Softw.* 12.6 (Nov. 1995), pp. 17–26.
- [7] David Harel. "Statecharts: A Visual Formalism for Complex Systems". In *Sci. Comput. Program.* 8.3 (June 1987), pp. 231–274.
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- [1] D. L. Parnas. "On the Criteria to Be Used in Decomposing Systems into Modules". In *Commun. ACM* 15.12 (Dec. 1972), pp. 1053–1058.

## Refereed Conference Publications

- [11] Miguel Velez, Jason Sawin, Alexia Ingerson, and David Chiu. "Improving Bitmap Execution Performance Using Column-Based Metadata". In *The IEEE 4th International Conference on Future Internet of Things and Cloud (FiCloud)*. Vienna, Austria, Aug. 2016.
- [10] Prasad Kawthekar and Christian Kästner. "Sensitivity Analysis For Building Evolving & Adaptive Robotic Software". In *Proceedings of the IJCAI Workshop on Autonomous Mobile Service Robots (WSR)*. New York, NY, USA, July 2016.
- [9] David Garlan. "Software Architecture: A Travelogue". In *Proceedings of the on Future of Software Engineering (FOSE)*. Hyderabad, India: ACM, June 2014, pp. 29–39.
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## Technical Reports

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- [1] David Garlan and Mary Shaw. *An Introduction to Software Architecture*. Technical Report CMU-CS-94-166. CMU, Jan. 1994.

## Part of Books

- [1] Mary Shaw. "The Role of Design Spaces". In Marian Petre and André van der Hoek. *Software Designers in Action: A Human-Centric Look at Design Work*. CRC Press, 2013.

## Miscellaneous

- [5] Miguel Velez and Jason Sawin. *Improving the Efficiency of CHA through Parallelization*. Poster. Inquiry at St. Thomas. May 2016.
- [4] Miguel Velez and Jason Sawin. *Faster WAH Compression Querying through the Use of Metadata*. Poster. Consortium for Computing Sciences in Colleges Midwest Region. 1<sup>st</sup> place Discovery Track. Oct. 2015.
- [3] Miguel Velez and Armando Solar-Lezama. *Simpler Implementation of Sketches through Enhanced Expressiveness*. Poster. MIT Summer Research Poster Session. Aug. 2015.
- [2] Miguel Velez. *Current and Future Relationships Between Robots and Humans*. Summa Cum Laude Paper. Apr. 2015.
- [1] Miguel Velez, Peter Gittins, and Jason Sawin. *Extending SMILES to Encode Reaction Mechanisms*. Poster. Inquiry at St. Thomas. May 2014.