# Huascar A. Sanchez

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## Summary

I make online code foraging less ad-hoc and more thoughtful.

Research Interests: Software engineering; specifically, my work focuses on building intuitive tools that will make the act of foraging for useful code on the Web more effective.

## Education

- **University of California at Santa Cruz**, Santa Cruz, CA                    *Expected October, 2015*

    Ph.D. Computer Science, 2009 – ongoing

    - *Dissertation:* "Source Code Curation Tooling for the Code Forager"
      (*Advisor:* Jim Whitehead)

- **San Jose State University**, San Jose, CA

    M.S. Software Engineering, 2006

    - *Thesis:* "Building Systems Using Patterns: Creating Knowledge Maps"
      (*Advisor:* M.E. Fayad)

- **Catholic University**, Managua, Nicaragua

    B.S. Information Systems Engineering, 2001

## Research

Publications

Sanchez, H., Whitehead, J. (2015). Source Code Curation on StackOverflow: The Vesperin System. Presented at ICSE'15: Proceedings of the 37th International Conference on Software Engineering. ICSE, 661–664.

Compton, K., Lederle-Ensign, D., Lin, Z., Mazeika, J., Mobramaein, A., Pagnutti, J., **Sanchez, H.,** and Whitehead, J. (2015). BotPrint: Casual Robotic Evolution. Presented at the 1st Workshop on Computational Creativity and Games (CCGW'15). Park City, UT, USA, June 28-28, 2015.

Logas, H., Whitehead, J., Mateas, M., Vallejos, R., Scott, L., Shapiro, D., Murray, J., Compton, K., Osborn, J., Salvatore, O., Lin, Z., **Sanchez, H.,** Shavlovsky, M., Cetina, D., Clementi, S., and Lewis, C. Software Verification Games: Designing Xylem, The Code of Plants. Presented at the 9th International Conference on the Foundations of Digital Games (FDG 2014). Ft. Lauderdale, FL, USA, April 3-7, 2014.

**Sanchez, H.** (2013). SNIPR: Complementing Code Search with Code Retargeting Capabilities. Presented at ICSE'13: Proceedings of the 35th International Conference on Software Engineering. ICSE, 1423–1426.

Jimenez, I., **Sanchez, H.**, Tran, Q. T., & Polyzotis, N. (2012). Kaizen: A Semi-Automatic Index Advisor. Presented at SIGMOD '12: Proceedings of the 2012 ACM SIGMOD International Conference on Management of Data. SIGMOD, 685–688.

Jimenez, I., LeFevre, J., Polyzotis, N., **Sanchez, H.**, & Schnaitter, K. (2011). Benchmarking Online Index-Tuning Algorithms. IEEE Data Eng. Bull., 34(4), 28–35.

Fayad, M. E., **Sanchez, H. A.**, & Singh, S. K. (2010). Knowledge Maps - Fundamentally Modular Approach to Software Architecture, Design, Development and Deployment. SEDE, 127–133.

**Sanchez, H. A.**, & Fayad, M. E. (2006). The Branding Analysis Pattern. Presented at AICCSA'06: Proceedings of the IEEE International Conference on Computer Systems and Applications. AICCSA, 361–364.

Fayad, M. E., Hamza, H. S., & **Sanchez, H. A.** (2005). Towards Scalable and Adaptable Software Architectures. Presented at IRI–2005: IEEE International Conference on Information Reuse and Integration. IRI, 102–107.

Gresh, J., McKim, J., **Sanchez, H.** (2005). The Dynamic Mapping Design Pattern. Presented at the 12th Pattern Language of Programs (PLOP 2005). Allerton Park, Monticello, IL, USA, September 7-10, 2005.

Fayad, M. E., Hamza, H. S., & **Sanchez, H. A.** (2003). A Pattern Language for an Effective Class Responsibility Collaborator (CRC) Cards. Presented at IRI–2003: IEEE International Conference on Information Reuse and Integration. IRI, 584–587.

Papers Under Review

**Sanchez, H.**, Whitehead, J. (2015). Multistaging to Understand: Distilling the Essence of Java Code Examples on StackOverflow.

# Books

- Fayad, M. E., **Sanchez, H. A.**, Hegde, S. G. K., Basia, A., & Vakil, A. (2014). Software Patterns, Knowledge Maps, and Domain Analysis. CRC Press, 2014. ISBN 9781466571433.

# Employment

**University of California at Santa Cruz**, Department of Computer Science, Santa Cruz, CA

- Research Assistant, Jim Whitehead, Fall 2013–Fall 2015.
  Worked on Xylem; a crowdsourced program verification game (FDG 2014):
  - Modeled the procedural generation of Xylem's screens content as a layout optimization problem and then designed and implemented different algorithms to solve it (AS3).
  - Increased assets' loading performance in Xylem's Web version by 45% after extending LoaderMax's loading system with *asynchronous batch assets loading* (AS3, LoaderMax).

- Research Assistant, Jim Whitehead, Fall 2011–Fall 2012.
  Worked on Botprint; a mixed initiative robot design Web tool (CCGW 2015):
  - Participated in the design and implementation of Botprint's mixed-initiative algorithms for robot design (Javascript, Three.js).

- ○ Investigated the interactions between placement and detailed routing. These iterations were key to finding better places for sketched robot components.
- Research Assistant, Neoklis Polyzotis, Fall 2010–Fall 2011.
  Worked on DBTune; a library for semi-automatic index tuning (SIGMOD 2012 & IEEE Data Eng. Bull. 2011).
  - ○ Redesigned and implemented the second iteration of the *DBTune* library (Java, PostgreSQL).

**Infomotor Inc.**, San Francisco, CA

- Consultant, 2010 – 2012
  - ○ Developed Web applications for streamlining both reporting and presentation of critical data, monitoring key performance metrics, and delivering understandable and actionable data (Javascript, C-sharp, SQLServer).

**Vergencemedia Inc.**, San Francisco, CA

- Consultant, 2007 – 2008
  - ○ Worked closely with ops team to develop a new interactive product-stories generation Web solution from inception to successful release (Javascript).

**Pearson VUE**, Bloomington, MN

- Software Engineer, 2006 – 2009
  - ○ Supported distributed applications responsible for delivering over 4 million computer-based tests a year across the globe for clients in diverse markets, such as licensure, certification (Java, SQLServer, In-house Job Scheduler).

## Teaching

**University of California at Santa Cruz**, Santa Cruz, CA

Teaching Assistant, Brenda Laurel, CMPM 178: Human-Centered Design Research, Winter 2015.

Teaching Assistant, Luca de Alfaro, CMPS 121: Mobile Applications, Spring 2012.

Teaching Assistant, Terry Allen, TIM 50: Business Information Systems, Fall 2011.

**San Jose State University**, San Jose, CA

Teaching Assistant, M.E. Fayad, CMPE 296G: Software Architectures, Spring 2005.

Teaching Assistant, M.E. Fayad, CMPE 195G: Software Patterns, Spring 2004.

Teaching Assistant, M.E. Fayad, CMPE 132: Software Engineering II, Fall 2004.

## Professional Affiliations

Member, Association of Computing Machinery (ACM), 2005–Present.

Member, IEEE, 2013–Present.

## Selected Graduate Coursework

- Software Engineering, Human Computer Interaction, Information Retrieval, Data Mining, Machine Learning, Design and Implementation of Database Systems, Topics in Database Systems (Cloud Computing), Computational Models and Complexity, and Advance Computer Graphics (Procedural Content Generation).

## References

*Available upon request.*

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