Eric L Seidel

PhD Student
4045 8th Ave #206
San Diego, CA 92103, USA

+1 (225) 276-2830
eric@seidel.io
http://eric.seidel.io

Objective

Seeking opportunities to further skills and experiences in research that leverage my expertise in software design and implementation, particularly in a multidisciplinary and collaborative environment.

Education

- **UC San Diego** — La Jolla, CA
  Ph.D. Computer Science — *2012 - Current*
- **UC San Diego** — La Jolla, CA
  M.S. Computer Science — *2012 - 2016*
- **The City College of New York** — New York, NY
  B.S. Computer Science — *2009 - 2012*
  - GPA: 3.93
  - Graduated *Magna Cum Laude*.
  - Received Engineering Achievement Medal (top of graduating class).
  - Dean's List 2012.
- **Louisiana State University [TRANSFERRED]** — Baton Rouge, LA
  B.S. Computer Science — *2006 - 2009*
  - Entered with 48 credits from Spring Testing session before entering.
  - Paused studies to work full time.

Work Experience

- **UC San Diego** — La Jolla, CA
  Research Assistant — *Sep. 2012 - Current*
  - Built tool to synthesize counter-examples to type errors.
    * Performs type-checking alongside execution, produces trace demonstrating how program gets stuck (Seidel, Jhala, and Weimer n.d.).
    * `http://goto.ucsd.edu:8091`
  - Worked on refinement type-based verifier for Haskell.
    * Implemented efficient testing framework using refinement types to prune the input search space (Seidel, Vazou, and Jhala 2015).
    * Verified memory safety and functional correctness of `Data.Text` library, discovered and fixed a memory bug in the process.
    * `https://github.com/ucsd-progsys/liquidhaskell`

- **Galois, Inc.** Portland, OR
  Software Engineering Intern *Sep. 2014 - Dec. 2014*
  - Worked on symbolic verifier for Ivory, an EDSL for programming embedded systems.
- **Fluidinfo Inc.** New York, NY
  Software Developer *May 2011 - Sep. 2012*
  - Analyzed and imported large datasets, and assisted with front- and back-end development.
  - Received internship for Summer 2011, continued part-time afterwards.
  - `http://www.fluidinfo.com`
- **Cactus Computational Toolkit** New York, NY
  Developer *Feb. 2010 - May 2011*
  - Worked with international Cactus team, developing and supporting tools to make it easier for science users to assemble/interact with complex simulation codes. See GetComponents below.
  - `http://www.cactuscode.org`
- **Undergraduate Petascale Research Internship** New York, NY
  Undergraduate Researcher *May 2010 - May 2011*
  - Selected for year-long national internship program in petascale computing.
  - Training/research supporting applications on future Blue Waters petascale facility at U. of IL.
  - `http://www.shodor.org/petascale`
- **Louisiana State University** Baton Rouge, LA
  Undergraduate Researcher *May 2010 - Aug. 2010*
  - Selected for Undergraduate Research Experience program.
  - Worked with Physics/Computer Science faculty at the Center for Computation & Technology.
  - Developed tools for use with Cactus Framework.
  - `http://reu.cct.lsu.edu`
- **Apple Inc.** Baton Rouge, LA
  Genius *Feb. 2008 - July 2009*
  - Diagnosed and resolved customer issues with full range of Apple products.
  - Hired as Specialist, promoted to Genius in Sep. 2008.

Publications

- E. L. Seidel, R. Jhala, and W. Weimer. "Dynamic Witnesses for Static Type Errors". In: *In Submission*
- T. Elliott et al. (2015). "Guilt free ivory". In: *Proceedings of the 8th ACM SIGPLAN Symposium on Haskell*. ACM, pp. 189–200
- E. L. Seidel, N. Vazou, and R. Jhala (2015). "Type Targeted Testing". In: *Programming Languages and Systems*. Springer Berlin Heidelberg, pp. 812–836
- N. Vazou, E. L. Seidel, and R. Jhala (2014). "Liquidhaskell: Experience with refinement types in the real world". In: *Proceedings of the 2014 ACM SIGPLAN symposium on Haskell*. ACM, pp. 39–51

- N. Vazou, E. L. Seidel, R. Jhala, et al. (2014). "Refinement types for haskell". In: *Proceedings of the 19th ACM SIGPLAN international conference on Functional programming*. ACM, pp. 269–282
- E. L. Seidel (2012). "Metadata Management in Scientific Computing". In: *Journal of Computational Science Education* 3.2, pp. 26–33
- W. L. Khoo, E. L. Seidel, and Z. Zhu (2012). "Designing a Virtual Environment to Evaluate Multimodal Sensors for Assisting the Visually Impaired". In: *Proceedings of the 13th international conference on Computers Helping People with Special Needs - Volume Part II*. ed. by D. Hutchison et al. Vol. 7383. ICCHP'12. Linz, Austria: Springer Berlin Heidelberg. Chap. 84, pp. 573–580
- G. Allen et al. (2010). "Component specification in the Cactus Framework: The Cactus Configuration Language". In: *2010 11th IEEE/ACM International Conference on Grid Computing (GRID)*. Brussels, Belgium: IEEE, pp. 359–368
- E. L. Seidel, G. Allen, et al. (2010). "Simplifying complex software assembly: the component retrieval language and implementation". In: *the 2010 TeraGrid Conference*. TG '10. Pittsburgh, Pennsylvania: ACM Press, pp. 1–8