Miguel Velez

Ph.D. Student in Software Engineering

Carnegie Mellon University
School of Computer Science
Institute for Software Research
✉ *mvelezce [at] cs.cmu.edu*
http://www.cs.cmu.edu/~mvelezce/
in *miguelvelezmj25*

"Premature optimization is the root of all evil" -Donald Knuth

Education

2016–Present **Ph.D. Software Engineering**, *Carnegie Mellon University*, Pittsburgh, PA, USA.

2010–2015 **B.A. Computer Science (Physics minor)**, *University of St Thomas*, St. Paul, MN, USA.
Advisor: Patrick Jarvis. Summa Cum Laude paper: "Current and Future Relationships Between Robots and Humans."

Research Experience

2016–Present **Graduate Research Assistant**, *Carnegie Mellon University*, Pittsburgh, PA, USA.

Summer 2015 **Research Intern**, *Massachusetts Institute of Technology*, Cambridge, MA.

2014–2015 **Undergraduate Student Researcher**, *University of St. Thomas*, St. Paul, MN.

Industry Experience

Spring 2016 **Application Developer/Software Engineer**, *Sportradar US*, Minneapolis, MN.
Accepted full-time offer. Developed an ETL application using Ruby that provided data for the NFL Radar360 research tool.

Fall 2015 **Application Developer/Software Engineer**, *Sportradar US*, Minneapolis, MN.
Built a Ruby monitoring application to parse and build Formula 1 feeds.

Spring 2015 **Jr. Application Developer**, *SportsData/Sportradar US*, Minneapolis, MN.
Implemented an application to parse and build MLB feeds using Ruby.

2013–2015 **Cloud Developer Intern**, *Valtira*, Minneapolis, MN.
Implemented and maintained web applications with Java servlets, AngularJS, and MySQL databases.

Publications

Refereed Conference Publications

[1] 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. (30% acceptance rate).

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. 1st 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.

Awards and Honors

- **MSRP Research Internship at MIT**, 2015. Acceptance rate: 10.5%
- **CCSC:MW 2015 1st place Student Posters & Showcase Discovery Track**, 2015. $100
- **UST Student Travel Grant**, 2015. $750
- **UST Collaborative Inquiry Grant**, 2014, 2015. $2000
- **International Student Leadership Scholarship**, 2012. $500
- **UST Dean's Honor List**, 2010-2015.
- **University of St. Thomas International Scholarship**, 2010-2015.
- **University of St. Thomas Tuition Scholarship**, 2010-2015.
- **American Field Service International Scholarship**, 2008-2009.

Other Interests and Activities

- Science Club for Girls volunteer. Cambridge, MN. June 2015
- UST Game Design Club 2014 – 2015.
- Note taker 2013, 2015. Helped two students with disabilities to take notes in class.
- UST Computer Science Consultant 2012 – 2015.
- UST Computer Science Club 2011 – 2015.
- UST Globally Minded Student Association 2010 – 2015.
- St. Thomas Activities and Recreation President 2012 – 2013.
- St. Thomas Activities and Recreation Intern 2011 – 2012.
- UST Spanish Tutor 2010 – 2012.
- 2 STEM Learning Communities 2011.
- UST Morrison Hall Council 2010 – 2011.

References

Jason Sawin
Department of Computer & Information Sciences
University of St. Thomas
✉ jason.sawin [at] stthomas.edu
☎ +1 651 962 5478

Patrick Jarvis
Department of Computer & Information Sciences
University of St. Thomas
✉ pljarvis [at] stthomas.edu
☎ +1 651 962 5482

Armando Solar-Lezama
Department of Electrical Engineering and Computer Science
Massachusetts Institute of Technology
✉ asolar [at] csail.mit.edu
☎ +1 617 258 9727