Miguel Velez

Website mijecu25.com/miguelvelez.html
LinkedIn linkedin.com/in/miguelvelezmj25
GitHub github.com/miguelvelezmj25
Email vele7090 [at] gmail.com

Research interests

Software Engineering, Programming Systems, and Programming Languages. Special interest in the development and optimization of software tools to aid the work of scientists and developers.

Education

University of St. Thomas. Bachelor in Computer Science, Physics Minor, advised by Patrick Jarvis, 2010 – 2015.
Summa Cum Laude: *Current and Future Relationships Between Robots and Humans.*

Research Experience

Research Intern – Massachusetts Institute of Technology June 2015 – August 2015
- Implemented features in Sketch that increased its expressiveness and made it more powerful.

Computer Science Undergraduate Research Student – UST August 2014 – Present
- Parallelized sequential reachability algorithms to increase the efficiency of analyzing source code.
- Enhanced WAH compression technique to query faster and more efficiently with two sets of metadata.

Computer Science & Chemistry Undergraduate Research Student – UST February 2014 – May 2014
- Implemented a programming language that analyzed user input related to organic chemistry.

Publications

- **Miguel Velez** and Jason Sawin. Parallelizing Sequential Reachability Algorithms. *Inquiry at UST Poster Session*, December 2015. (to be submitted).
- **Miguel Velez** and Jason Sawin. Faster WAH Compression Querying through the Use of Metadata. *Consortium for Computing Sciences in Colleges Midwest Region Poster Session*, October 2015.
- **Miguel Velez** and Armando Solar-Lezama. Simpler Implementation of Sketches through Enhanced Expressiveness. *MIT Summer Research Poster Session 2015*, August 2015.
- **Miguel Velez**, Peter Gittins, and Jason Sawin. Extending SMILES to Encode Reaction Mechanisms. *Inquiry at UST Poster Session*, May 2014.

Honors and Recognitions

MSRP Research Internship at MIT 2015 (10.5% acceptance rate)
UST Collaborative Inquiry Grant 2014, 2015
International Student Leadership Scholarship 2012
Bev and Pat Flaherty Scholarship 2011 – 2014
Dean's Honor List Fall 2010 – Present
University of St. Thomas International & Tuition Scholarship 2010 – 2015
American Field Service International Scholarship 2008 – 2009

Professional Experience

Application Developer/Software Engineer – Sportradar US August 2015 – Present
- Built Ruby monitoring applications to parse and build Formula 1 feeds.

Jr. Application Developer – Sportsdata/Sportradar US February 2015 – May 2015
- Developed Ruby applications to monitor and parse MLB feeds.

Cloud Developer Intern – Valtira, LLC February 2013 – January 2015
- Implemented and maintained web applications with Java servlets, AngularJS, and MySQL databases.

Side Projects

dsa
Implementation of data structures and algorithms

Cubie Cruiser
2D endless runner game focused on avoiding obstacles

stats
Generator of file system statistics

Personal Backup
Software tool to backup folders and files

Urban Tennis
First full game published for the web

Unity Game Development Manual
Guide of the basics of Unity game development

Activities

Game Design Club 2014 – Present
Computer Science Consultant 2012 – Present
Computer Science Club 2011 – Present
Globally Minded Student Association 2010 – Present
Note taker 2013, 2015

STAR President 2012 – 2013
STAR Intern 2011 – 2012
2 STEM Learning Communities 2011
Morrison Hall Council 2010 – 2011
Spanish Tutor 2010 – 2012

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