Curriculum Vitae — Vassilios Tzerpos

Associate Professor
Department of Electrical Engineering and Computer Science
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Degrees

- Ph.D., University of Toronto, Department of Computer Science, 2001.

- M.Sc., University of Toronto, Department of Computer Science, 1995.

- B.Sc., National Technical University of Athens, Department of Electrical and Computer Engineering, 1992.

Employment History

- 2006–now : Associate Professor, Department of Electrical Engineering and Computer Science, York University.

- 2001–2006 : Assistant Professor, Department of Computer Science and Engineering, York University.

- 1998–2001 : Research Associate, Department of Computer Science, University of Waterloo.

- 1997 : Instructor, Department of Computer Science, University of Toronto.

- 1993–1997 : Teaching Assistant, Department of Computer Science, University of Toronto.

- 1992–1993 : Research Associate, Department of Electrical and Computer Engineering, National Technical University of Athens.

Academic Honours

- Most Influencial Paper Award for the IEEE International Conference on Program Comprehension 2014.

- Best Paper Award for the IEEE International Workshop on Program Comprehension 2005.

- Connaught Fellowship, University of Toronto, 1996-1998.

Scholarly and Professional Activities

- Program Committee member for the IEEE International Conference on Software Maintenance.

- Program Committee member for the Working Conference on Reverse Engineering.

- Program Committee member for the IEEE International Conference on Program Comprehension.

- Proceedings Chair for the IEEE International Conference on Software Maintenance, 2006.

- Reviewer for the following journals:

  - Transactions on Software Engineering
  - Journal of Automated Software Engineering

- – Software: Practice and Experience
- – Journal of Software Maintenance and Evolution

- Invited speaker at the workshop entitled *Software Clustering* at the Software Tools and Engineering Practice (STEP 99) conference, Pittsburgh, August 1999.

- Workshop Chair for the workshop entitled *Software as a landscape: viewing your software from 20,000 feet* at the 8th IBM Centre for Advanced Studies, Conference (CASCON 98), November, 1998.

Graduate Supervisions

Current students

1. Ricardo Reimao (M.Sc.)
   Project: Detect generated vs. real audio recordings.

2. Pedro Casas (M.Sc.)
   Project: Evaluate music mastering quality by detecting equalization differences between music recordings.

3. Rajshree Daulatabad (M.Sc.)
   Project: TBD

Supervisor for completed Ph.D.

1. Mark Shtern, "Methods for Evaluating Software Clustering Algorithms", August 2010.

Supervisor for completed M.Sc.

1. Joel Cayne, "Improving Data Mining Tool Selection Using Analysis Tools", June 2013.

2. Shouzheng Yang, "A Model for the Evaluation of Design Pattern Detection Results", June 2012.

3. Haneen Dabain, "A Graphical Notation For Design Pattern Detection", May 2011.

4. Maurice Lebon, "A Fine-Grained Model for Design Pattern Detection in Eiffel Systems", September 2007.

5. Marcel Birkner, "Object-oriented Design Pattern Detection Using Static and Dynamic Analysis in Java Software", August 2007 (exchange student from University of Applied Sciences Bonn-Rhein-Sieg).

6. Amir Ali Ghadiri, "Understanding Java Applications Using Frquency of Method Calls", July 2007.

7. Wei Wang, "Design Pattern Detection in Eiffel Systems", January 2005.

8. Chenchen Xiao, "Using Dynamic Analysis to Cluster Large Software Systems", December 2004.

9. Zhihua Wen, "An Optimal Algorithm and Extensions for the MoJo Distance Measure", July 2003.

Supervisory committees

- Mohamad Alsabbagh (supervisor Suprakash Datta), M.Sc., ongoing.

- Mahdieh Abbaszadegan (supervisors Sebastian Magierowski and Ebrahim Ghafar-Zadeh), M.Sc., ongoing.

- Dusan Stevanovic (supervisor Natalija Vlajic), Ph.D., March 2016.

- Cornel Barna (supervisor Marin Litoiu), Ph.D., December 2015.

- Loutfouz Zaman (supervisor Wolfgand Stuerzlinger), Ph.D., September 2015.

- Haifeng Huang (supervisor Jonathan Ostroff), M.Sc., December 2007.

- Faraz Ahmadi Torshizi (supervisor Jonathan Ostroff), M.Sc., July 2007.

- Nati Fuks (supervisor Jonathan Ostroff), M.Sc., July 2004.

- Yan Gao (supervisor Jonathan Ostroff), M.Sc., July 2004.

- Ali Taleghani (supervisor Jonathan Ostroff), M.Sc., July 2004.

Thesis examination committees

- Boyuan Chen (supervisor Jack Jiang), M.Sc., November 2016.

- Vassilios Theodorou (supervisor Marin Litoiu), M.Sc., September 2013.

- Douglas Scheurich (supervisor Wolfgang Stuerzlinger), M.Sc., June 2013.

- Rina Jalman (supervisor Sotirios Liaskos), M.Sc., September 2012.

- Andrei Solomon (supervisor Marin Litoiu), M.Sc., December 2010.

- Aleks Oniszczak (supervisor Scott MacKenzie), M.Sc., May 2008.

- Dusty Phillips (supervisor Wolfgang Stuerzlinger), M.Sc., April 2007.

- Steven Castellucci (supervisor Scott MacKenzie), M.Sc., March 2007.

- William Andreopoulos (supervisor Aijun An), Ph.D., September 2006.

- Yang Liu (supervisors Aijun An and Jimmy Huang), M.Sc., December 2004.

- Steven Hu (supervisor Vincent Tao), M.Sc., June 2004 (external examiner).

- Andriy Pavlovych (supervisor Wolfgang Stuerzlinger), M.Sc., July 2003.

- William Soukoreff (supervisor Scott MacKenzie), M.Sc., July 2002.

Ph.D. External Examiner

- Xulin Zhao, Queen's University, Kingston ON, November 2010.

- Onaiza Maqbool, Lahore University, Pakistan, December 2005.

Graduate Courses

- CSE 6431 - "Software Re-Engineering", Winter 2017.

- COSC 6431 - "Software Re-Engineering", Fall 2011.

- COSC 6431 - "Software Re-Engineering", Winter 2010.

- COSC 6431 - "Software Re-Engineering", Fall 2007.

- COSC 6431 - "Software Re-Engineering", Fall 2006.

- COSC 6431 - "Software Re-Engineering", Winter 2006.

- COSC 6431 - "Software Re-Engineering", Fall 2004.

- COSC 6431 - "Software Re-Engineering", Fall 2003.

External Research Funding

Year	Source	Type	Amount per year	Purpose
2011-2015	NSERC	Granting council	24,000	Research
2006-2010	NSERC	Granting council	20,100	Research
2002-2005	NSERC	Granting council	15,000	Research

Internal Research Funding

Year	Source	Amount	Purpose
2018	Lassonde School of Engineering	11,000	Bridge Funding
2002	York University	40,000	Startup

Publications

Lifetime Summary

- Journal publications: 6

- Papers in peer-reviewed conference and workshop proceedings: 32

- Chapters in books: 1

- Non-refereed workshop papers: 1

Details of Publications

Journal publications

1. "On the Evaluation of Nested Software Decompositions", Mark Shtern and Vassilios Tzerpos, accepted with minor revisions at Journal of Software Maintenance and Evolution: Research and Practice.

2. "Mitigating DoS Attacks using Performance Model-driven Adaptive Algorithms", Cornel Barna, Mark Shtern, Michael Smit, Vassilios Tzerpos, Marin Litoiu, Transactions on Autonomous and Adaptive Systems, Volume 9, Issue 1, pp. 3:1 - 3:26, March 2014.

3. "Methods for selecting and improving software clustering algorithms", Mark Shtern and Vassilios Tzerpos, Software: Practice and Experience, Volume 44, Issue 1, pp. 33–46, 2014, doi: 10.1002/spe.2147.

4. "Clustering methodologies for software engineering", Mark Shtern and Vassilios Tzerpos , Advances in Software Engineering, vol. 2012, 18 pages, doi: 10.1155/2012/792024

5. "Clustering Large Software Systems at Multiple Layers", Bill Andreopoulos, Aijun An, Vassilios Tzerpos, Xiaogang Wang, Information and Software Technology, Elsevier, March 2007, Volume 49, Issue 3, pp. 244-254.

6. "Information Theoretic Software Clustering", Periklis Andritsos and Vassilios Tzerpos, IEEE Transactions in Software Engineering, February 2005, Volume 31, Issue 2, pp. 150-165.

Papers in peer-reviewed conference and workshop proceedings

1. "Evaluating Music Mastering Quality Using Machine Learning", Mark Shtern, Pedro Casas and Vassilios Tzerpos, Proceedings of the 28th Annual International Conference on Computer Science and Software Engineering, October 2018, pp. 126–135.

2. "A Model for Analysis and Presentation of Design Pattern Detection Results", Shouzheng Yang and Vassilios Tzerpos, Proceedings of the 33rd Annual ACM Symposium on Applied Computing, April 2018, pp. 1500-1509.

3. "Transfer Learning in Neural Networks: An Experience Report", Mark Shtern, Rabia Ejaz, and Vassilios Tzerpos, Proceedings of the 27th Annual International Conference on Computer Science and Software Engineering, November 2017, pp. 201–210.

4. "Design Pattern Detection using FINDER", Haneen Dabain, Ayesha Manzer, and Vassilios Tzerpos, Proceedings of the 30th Annual ACM Symposium on Applied Computing, April 2015, pp. 1586–1593.

5. "Measuring the Quality of Design Pattern Detection Results", Shouzheng Yang, Ayesha Manzer, and Vassilios Tzerpos, 22nd IEEE International Conference on Software Analysis, Evolution, and Reengineering, March 2015, pp. 53–62.

6. "Protecting Web Applications via Unicode Extension", Boze Zekan, Mark Shtern, and Vassilios Tzerpos, 22nd IEEE International Conference on Software Analysis, Evolution, and Reengineering, March 2015, pp. 419–428.

7. "Fine-grained Design Pattern Detection", Maurice Lebon and Vassilios Tzerpos, 36th Annual IEEE Computer Software and Applications Conference (COMPSAC), July 2012, pp. 267–272.

8. "Model-based adaptive DoS attack mitigation", Cornel Barna, Mark Shtern, Michael Smit, Vassilios Tzerpos, Marin Litoiu, ICSE Workshop on Software Engineering for Adaptive and Self-Managing Systems (SEAMS), June 2012, pp. 119–128.

9. "Evaluating Software Clustering using Multiple Simulated Authoritative Decompositions", Mark Shtern and Vassilios Tzerpos, 27th IEEE International Conference on Software Maintenance (ICSM 2011), Williamsburg, USA, September 2011, pp. 353-361.

10. "Factbase and Decomposition Generation", Mark Shtern and Vassilios Tzerpos, 15th European Conference on Software Maintenance and Reengineering (CSMR 2011), Oldenburg, Germany, March 2011, pp. 111-120.

11. "On the Comparability of Software Clustering Algorithms", Mark Shtern and Vassilios Tzerpos, 18th International Conference on Program Comprehension (ICPC 2010), Braga, Portugal, July 2010, pp. 64-67.

12. "Refining Clustering Evaluation using Structure Indicators", Mark Shtern and Vassilios Tzerpos, 25th IEEE International Conference on Software Maintenance (ICSM 2009), Edmonton, AL, September 2009, pp. 297-305.

13. "Methods for Selecting and Improving Software Clustering Algorithms", Mark Shtern and Vassilios Tzerpos, 17th IEEE International Conference on Program Comprehension (ICPC 2009), Vancouver, BC, May 2009, pp. 248-252.

14. "Lossless Comparison of Nested Software Decompositions", Mark Shtern and Vassilios Tzerpos, Working Conference on Reverse Engineering, Vancouver, BC, October 2007, pp. 249-258.

15. "Design Pattern Detection in Eiffel Systems", Wei Wang and Vassilios Tzerpos, Working Conference on Reverse Engineering, Pittsburgh, PA, November 2005, pp. 165-174.

16. "Multiple Layer Clustering of Large Software Systems", Bill Andreopoulos, Aijun An, Vassilios Tzerpos, and Xiaogang Wang, Working Conference on Reverse Engineering, Pittsburgh, PA, November 2005, pp. 79-88.

17. "Software Clustering based on Omnipresent Object Detection", Zhihua Wen and Vassilios Tzerpos, Proceedings of the 13th IEEE International Workshop on Program Comprehension, St.Louis, May 2005, pp. 269-278, (*won Best Paper Award for IWPC 2005*).

18. "Software Clustering based on Dynamic Dependencies", Chenchen Xiao and Vassilios Tzerpos, Proceedings of the 9th European Conference on Software Maintenance and Reengineering, Manchester, March 2005, pp. 124-133.

19. "A Framework for the Comparison of Nested Software Decompositions", Mark Shtern and Vassilios Tzerpos, Proceedings of the Working Conference on Reverse Engineering 2004, Netherlands, November 2004, pp. 284-292.

20. "Evaluating Similarity Measures for Software Decompositions", Zhihua Wen and Vassilios Tzerpos, Proceedings of the IEEE International Conference on Software Maintenance, Chicago, September 2004, pp. 368-377.

21. "An Effectiveness Measure for Software Clustering Algorithms", Zhihua Wen and Vassilios Tzerpos, Proceedings of the 12th IEEE International Workshop on Program Comprehension, Bari, Italy, June 2004, pp. 194-203.

22. "DPVK - An Eclipse Plug-in to Detect Design Patterns in Eiffel Systems", Wei Wang and Vassilios Tzerpos, Second Eclipse Technology eXchange Workshop, European Joint Conferences on Theory and Practice of Software, Barcelona, March 2004, Electronic Notes in Theoretical Computer Science, Elsevier.

23. "Software Clustering Based on Information Loss Minimization", Periklis Andritsos and Vassilios Tzerpos, Proceedings of the Working Conference on Reverse Engineering 2003, Victoria, November 2003, pp. 334-344.

24. "An Optimal Algorithm for MoJo Distance", Zhihua Wen and Vassilios Tzerpos, Proceedings of the 11th IEEE International Workshop on Program Comprehension, Portland, USA, May 2003, pp. 227-235.

25. "ACDC : An Algorithm for Comprehension-Driven Clustering", Vassilios Tzerpos and R.C. Holt, Proceedings of the Working Conference on Reverse Engineering 2000, Brisbane, Australia, pp. 258-267.

26. "On the Stability of Software Clustering Algorithms", Vassilios Tzerpos and R.C. Holt, Proceedings of the 8th IEEE International Workshop on Program Comprehension, Limerick, Ireland, June 2000, pp. 211-218.

27. "MoJo : A Distance Metric for Software Clustering", Vassilios Tzerpos and R.C. Holt, Proceedings of the Working Conference on Reverse Engineering 1999, Atlanta, October 1999, pp. 187-193.

28. "Software Botryology, Automatic Clustering of Software Systems", Vassilios Tzerpos and R.C. Holt, Proceedings of the International Workshop on Large-Scale Software Composition, Vienna, August 1998, pp. 811-818.

29. "The Orphan Adoption problem in Architecture Maintenance", Vassilios Tzerpos and R.C. Holt, Proceedings of the Working Conference on Reverse Engineering 1997, Amsterdam, October 1997, pp. 76-82.

30. "A Hybrid Process for Recovering Software Architecture", Vassilios Tzerpos and R.C. Holt, Proceedings of CASCON 1996, Toronto, Canada, November 1996, pp. 1-6.

31. "A Well-Formedness Theory for C Source Inclusion", Vassilios Tzerpos and R.C. Holt, Proceedings of the 3rd International Symposium on Applied Corporate Computing, Monterrey, Mexico, October 1995.

32. "Design Maintenance: Unexpected Architectural Interactions", Ian Carmichael, Vassilios Tzerpos and R.C. Holt, Proceedings of the International Conference on Software Maintenance, Nice, France, October 1995, pp. 134-137.

Chapters in books

- "Automatic Architectural Clustering of Software", Vassilios Tzerpos and R.C. Holt, Chapter in *Advances in Software Engineering: Topics in Comprehension, Evolution, and Evaluation*, Springer-Verlag New York, Inc., 2002, pp. 159-176.

Non-refereed workshop papers

- "Web-Based Presentation of Hierarchic Software Architecture", Vassilios Tzerpos, R.C. Holt and Gary Farmaner, Workshop on Software Engineering (on) the World Wide Web, International Conference on Software Engineering 1997, Boston, May 19, 1997.

Undergraduate Teaching

Contribution

- Proposed, developed and taught a new course on Digital Audio (EECS 4462).
- Successfully proposed a new Industry Partnership stream for the B.Sc. in Computer Science.
- Successfully proposed (with Jonathan Ostroff) a B.A.Sc. in Software Engineering.
- Developed and taught a new Software Engineering course (CSE 2311).
- Developed and taught a new Software Engineering course on Testing (CSE 4313).
- Developed (with Mark Shtern) the course CSE 4481 - Computer Security Laboratory.
- Undertook a redesign of the assignments/project structure for CSE 3311 to ensure that students develop a system of significant size (the work is done in two or more phases) following software design guidelines. This involves preparing a significant amount of code that students can build on.

Courses taught

- Winter 2019: EECS2311
- Fall 2018: EECS4462
- Winter 2018: EECS1021, EECS2311, EECS3311
- Winter 2017: EECS2311
- Fall 2016: EECS1520
- Winter 2015: EECS2311, EECS4313
- Fall 2014: EECS2031
- Winter 2014: CSE2311, CSE4313
- Fall 2013: CSE2031
- Winter 2013: CSE2311
- Fall 2012: CSE2031
- Winter 2012: CSE1020

- Fall/Winter 2011–12: CSE4090

- Summer 2011: CSE4080

- Winter 2011: CSE1020, CSE4080

- Summer 2010: CSE4080

- Winter 2010: CSE1020

- Winter 2008: CSE3311, CSE4313

- Fall 2007: COSC6431

- Winter 2007: CSE3311, CSE4313

- Fall 2006: COSC6431

- Winter 2006: CSE4313, COSC6431

- Summer 2005: COSC1020

- Winter 2005: COSC4313

- Winter 2004: COSC3311

- Fall 2003: COSC3311

- Winter 2003: COSC2031, COSC3311

- Fall 2002: COSC3461

- Winter 2002: COSC3311, COSC3461

Undergraduate Capstone Projects supervised

2018–19

- Haider Al-Tahan: "Aiding Speech Language Pathologists using Machine Learning".

- ENG 4000: "Digital Record Centralized Storage and Data Analytics".

2017–18

- Pedro Casas: "Evaluating music mastering quality".

2010

- Yongcheol Kim: "Computer Security Lab Evaluation".

2006

- Joel Cayne: "Remote website updating using Java RMI".

- David Kelk: "Design pattern detection in C# systems".

2005

- Runping Huang: "A Java implementation of the END framework".

2003

- Faramarz Vermahmood: "An implementation of a comprehension-driven software clustering algorithm".

- Veronica Ionita: "An implementation of a suite of cluster analysis algorithms".

- Nazaninam Afshari: "Utility subsystem recovery".

University Service

- Industry Partnership Committee Chair (2017 - now)

- Digital Media Steering Committee (2017 - now)

- Tenure and Promotion Adjudication Committee (2017 - now)

- File Preparation Committee for Matthew Kyan (2016 - now)

- ACM programming contest coach (2016 - 2018)

- Computer Security Steering Committee (2016 - 2018)

- LSE Learning, Curriculum, and Students committee (2013 - 2015)

- Departmental Science Curriculum Committee (2009 - 2015)

- Computer Security program coordinator (2009 - 2013, 2014 - 2015)

- Computer Security Steering Committee (2013 - 2015)

- UCOSP coordinator (2009 - 2015)

- Graduate Executive Committee (2014 - 2015)

- Graduate Program Appraisal (2014 - 2015)

- Departmental Engineering Curriculum Committee (2013 - 2014)

- Software Engineering co-ordinator (2013 - 2014)

- Software Engineering co-ordinator (2010 - 2013, with Jonathan Ostroff)

- Organized the first Research Poster Day (2008)

- Graduate Executive Committee (2005 - 2008)

- Presented a talk entitled "Software Engineering: Teaching and Research" during the March Break Open Houses (2004)

- File Preparation Committee for Eric Ruppert (2004)

- ACM programming contest coach (2003 - 2008)

- Presented a "Focus on Software Engineering" seminar entitled "Famous software failures – Can they be prevented?" (with Jonathan S. Ostroff) (2003)

- Organized graduate orientation (2003)

- Seminar and Distinguished Lecture co-ordinator (2001 - 2004)

- Department ConGESE contact (2001 - 2013)