Ian Finlayson

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PROFESSIONAL EXPERIENCE

Associate Professor, University of Mary Washington, Fall 2018 – Present

- Teach coursework in computer science.
- Advise students in career and academic decisions.
- Lead undergraduate research projects in different areas.
- Served as department chair of computer science from Fall 2018 – Summer 2021.

Assistant Professor, University of Mary Washington, Fall 2013 – Spring 2018

- Taught coursework in computer science.
- Advised students in career and academic decisions.
- Led undergraduate research projects in different areas.

Visiting Instructor, University of Mary Washington, Fall 2012 – Spring 2013

- Taught introduction to computer science, data structures, and programming languages.
- Advised undergraduate research projects.

Ph.D Student, Florida State University, Fall 2007 – Spring 2012

- Worked on novel research in computer science.
- Took graduate computer science coursework.

Instructor, Florida State University, Summer 2008

- Taught a course in object-oriented programming in C++.
- Developed much of the course materials such as lectures, assignments and tests.

Teaching Assistant, Florida State University, Spring 2008.

- Graded and developed assignments.
- Held office hours and assisted students as needed.

EDUCATION

Ph.D. in Computer Science, Florida State University, 2007-2012

- Dissertation Title: "Improving Low Power Processor Efficiency through Static Pipelining".
- Advisors: David B. Whalley, Gary S. Tyson
- GPA: 4.0

B.S. in Computer Science, Winthrop University, 2003-2007

- Minor: Mathematics
- GPA: 3.97

PUBLICATIONS

- Ian Finlayson, Stephen Davies, "Jguardrail: A Framework for Identifying Possible Errors in Student Java Code". In *Journal of Computing Sciences in Colleges*, Consortium for Computing Sciences in Colleges, 2024.

- Ian Finlayson. "The Effect of Gender on Student Self-Assessment in Introductory Computer Science Classes". In *Journal of Computing Sciences in Colleges*, Consortium for Computing Sciences in Colleges, 2020.

- Ian Finlayson. "Using the Game Boy Advance to Teach Computer Systems and Architecture". In *Journal of Computing Sciences in Colleges*, Consortium for Computing Sciences in Colleges, 2016.

- Brandon Davis, Ryan Baird, Peter Gavin, Magnus Själander, Ian Finlayson, Farhad Rasapour, Gregory Cook, Gang-Ryung Uh, David Whalley, and Gary Tyson. "Scheduling Instruction Effects for a Statically Pipelined Processor". In *Proceedings of the 2015 International Conference on Compilers, Architecture and Synthesis for Embedded Systems*, pages 167–176. IEEE Press, 2015.

- Ian Finlayson, Jerome Mueller, Shehan Rajapakse, and Daniel Easterling. "Introducing Tetra: An Educational Parallel Programming System". In the *15th NSF/TCPP Workshop on Parallel and Distributed Computing Education* 2015.

- Ian Finlayson, Brandon Davis, Peter Gavin, Gang-Ryung Uh, David Whalley, Magnus Själander, and Gary Tyson. "Improving Processor Efficiency by Statically Pipelining Instructions". In *ACM SIGPLAN Notices*, volume 48, pages 33–44. ACM, 2013.

- Ian Finlayson, Gang-Ryung Uh, David Whalley, and Gary Tyson. "An Overview of Static Pipelining". *Computer Architecture Letters*, 11(1):17–20, 2012.

- Ian Finlayson, Gang-Ryung Uh, David Whalley, and Gary Tyson. "Improving Low Power Processor Efficiency with Static Pipelining". In *Interaction between Compilers and Computer Architectures (INTERACT), 2011 15th Workshop on*, pages 17–24. IEEE, 2011.

- Yuval Peress, Ian Finlayson, Gary Tyson, David Whalley, et al. "CRC: Protected LRU Algorithm". In *JWAC 2010-1st JILP Worshop on Computer Architecture Competitions: Cache Replacement Championship*, 2010.

NON-PUBLISHED TALKS

- Ian Finlayson. "An Online Unix Class using the Google Cloud". Given at the Consortium for Computing Sciences in Colleges Eastern, 35th Annual Regional Conference, Arlington, Virginia, October 19-20, 2018.

COURSES TAUGHT

- CPSC 110: Introduction to Computer Science
- CPSC 220: Computer Programming and Problem Solving
- CPSC 225: Software Development Tools
- CPSC 240: Object-Oriented Analysis & Design
- CPSC 305: Computer Systems and Architecture
- CPSC 326: Theoretical Foundations of Computing
- CPSC 340: Data Structures and Algorithms
- CPSC 370: Red Hat System Administration I
- CPSC 401: Organization of Programming Languages
- CPSC 414: Network Principles and Applications

- CPSC 425: Parallel Computing
- FSEM 100TT: Computation: Minds and Machines

DEPARTMENT SERVICE

- System administrator, Fall 2022 – present.
- Department chair, Fall 2018 – Summer 2021.
- ACM International Collegiate Programming Contest coach, Fall 2015 – present.
- Organizer of annual computer science programming competition.
- Member of computer science department faculty search committees, 2013, 2014, 2018, 2020, 2021, 2022, 2023, 2024.
- Systems Liaison, Fall 2014 – Fall 2018.
- Computer science department web master, Fall 2012 – Fall 2016.
- Computer science department secretary, Fall 2012 – Spring 2014.

UNIVERSITY SERVICE

- External search committee member for biological sciences, 2021.
- University Faculty Council, member Fall 2021 – Spring 2024.
- University Faculty Council, secretary Fall 2021 – Spring 2022.
- College of Arts and Sciences Faculty Council, member Fall 2021 – Spring 2024.
- College of Arts and Sciences Faculty Council, secretary Fall 2022 – Spring 2023.
- College of Arts and Sciences Faculty Council, chair Fall 2023 – Spring 2024.
- University First-Year Seminar Committee, member Fall 2020 – Spring 2023.
- UMW Honor Advisor to the Honor Council, Fall 2015 – Spring 2018.
- Judge, UMW writing intensive writing contest, 2013 – 2018.
- College of Arts and Sciences Curriculum Committee, member, Fall 2014 - Spring 2017.
- College of Arts and Sciences Curriculum Committee, secretary, Fall 2014 – Spring 2015, and Fall 2016 – Spring 2017.
- College of Arts and Sciences Faculty Senate, representative from Computer Science, Fall 2013 through Spring 2015.
- College of Arts and Science Faculty Senate, secretary, Fall 2014 – Spring 2015.
- Mentor for the Summer Science Outreach Initiative, 2014 and 2016.
- Ad-Hoc Committee for Electronic Promotion and Tenure File Submission, member and secretary, Summer 2014 – Spring 2015.

PROFESSIONAL SERVICE

- Programming Contest Problem co-author for the Consortium for Computing Sciences in Colleges (CCSC) Eastern, 2023 – present.
- Moderated a technical workshop for the ACM Capital Region Celebration of Women in Computing Conference, 2022.
- Planning committee member for the Consortium for Computing Sciences in Colleges (CCSC) Eastern, 2021 – present.

- Reviewer for the Consortium for Computing Sciences in Colleges (CCSC) Eastern, 2017 – present.
- Reviewer for the 4th International Conference on Computer Science and Application Engineering, 2020.
- Reviewer for the Journal of Parallel and Distributed Computing, 2016.
- Reviewer for ACM Transactions on Design Automation of Electronic Systems, 2014.

Awards, Grants and Honors

- Won best paper award at the The 40th Annual CCSC Eastern Conference for paper "Jguardrail: A Framework for Identifying Possible Errors in Student Java Code".
- Won Chi Beta Phi STEM Faculty Award, 2017.
- Won best paper award at the The 32nd Annual CCSC Eastern Conference for paper "Using the Game Boy Advance to Teach Computer Systems and Architecture".
- Awarded Jepson Fellowship, for the 2016–2017 academic year.
- Won a "Box of Awesome" from the UMW Center for Teaching Excellence and Innovation for innovative assignment.
- Runner Up, Best Presentation, FSU Computer Science Graduate Research Conference Spring 2011.
- Best Research Topic Award, FSU Computer Science Graduate Research Conference Spring 2009.
- GAANN Fellow Fall 2007 – Summer 2009.
- Florida State University, Program for Instructional Excellence Certification. 2008.
- Upsilon Pi Epsilon Inductee, Fall 2005.

Technical Skills

- C
- C++
- Java
- Python

- Web development
- Parallel computing
- Linux
- Git

- Lex & Yacc
- ANTLR
- LaTeX

References available on request   –   Last updated October 22, 2024