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EDUCATION

- 2008 PHD, University of Notre Dame 
Ph.D., Computer Science and Engineering, University of Notre Dame, Notre Dame, Indiana, United States
 Dissertation: Interacting Domain-Specific Languages With Biological Problem Solving Environments
- 2005 MSC, University of Notre Dame

WORK EXPERIENCE

Full Time Academic

Associate Professor, Computer Science, Eckerd College, St. Petersburg, FL, August 2014, August 2016 [Type Work Experience: Full Time Academic]

Assistant Professor, Computer Science, Eckerd College, St. Petersburg, FL, August 2008, August 2014 [Type Work Experience: Full Time Academic]

Research Assistant, Computer Science and Engineering, Laboratory for Computational Life Sciences (LCLS), University of Notre Dame, Notre Dame, IN, January 2001, July 2008 [Type Work Experience: Full Time Academic]

SCHOLARLY PUBLICATIONS AND CREATIVE ACTIVITIES

Type	Title	Outlet	Year Pub.	Status	Semester
Article	MATria: A Unified Centrality Algorithm	BMC Bioinformatics	2018	Accepted	Summer 2018
Presentation, Presented Papers, and Lectures	Constructing Lightweight and Flexible Pipelines Using Plugin-Based Microbiome Analysis (PluMA)	International Society for Computational Biology	2018	Accepted	Summer 2018
Proceeding	Inferring Relationships in Microbiomes from Bayesian Networks	9th ACM Conference on Bioinformatics, Computational Biology and Health Informatics (BCB2018)	2018	Submitted	Summer 2018
Article	The Gut Microbiome and ADHD		2018	In Progress	Spring 2018
Article	Constructing Lightweight and Flexible Pipelines Using Plugin-based Microbiome Analysis (PluMA)	Bioinformatics	2018	Completed/Published	Spring 2018
Article	Smoking Associated Differences In The Microbiome Of The Lower Respiratory Tract		2018	Revise & Resubmit	Spring 2018
Proceeding	MATria, A Unified Centrality Algorithm	ICCABS 2017	2017	Completed/Published	Fall 2017
Presentation, Presented Papers, and Lectures	Microbiome Analysis Pipelines: Present And Future	American Society for Microbiology	2017	Completed/Published	Fall 2017
Presentation, Presented Papers, and Lectures	A Flexible and Lightweight Multi-Omics Analysis Pipeline Using Plugin-Based Microbiome Analysis	Stanford University	2017	Completed/Published	Fall 2017
Article	ATria: A Novel Centrality Algorithm Applied To Biological Networks	BMC Bioinformatics	2017	Completed/Published	Fall 2017
Article	Metagenomics, Metatranscriptomics, and Metabolomics Approaches for Microbiome Analysis	Evol Bioinform Online	2016	Completed/Published	Fall 2016
Proceeding	Lightweight Microbiome Analysis Pipelines	Proceedings of International Work Conference on Bioinformatics and Biomedical Engineering (IWBBIO16)	2016	Completed/Published	Fall 2016
Proceeding	ATria: A Novel Centrality Algorithm Applied To Biological Networks	Proceedings of IEEE International Conference on Computational Advances in Bio and Medical Sciences (ICCABS 2015)	2015	Completed/Published	Fall 2015

Article	GPUDePiCT: A Parallel Implementation of a Clustering Algorithm for Computing Degenerate Primers on Graphics Processing Units	TCBB	2015	Completed/Published	Fall 2015
Presentation, Presented Papers, and Lectures	Graphics Processing Unit Biofilm Image Processing (GPUBIP)	Embry-Riddle Aeronautical University	2015	Completed/Published	Spring 2015
Presentation, Presented Papers, and Lectures	An Environment for Prototyping Molecular Dynamics on the GPU in Python	Florida International University	2014	Completed/Published	Spring 2014
Presentation, Presented Papers, and Lectures	Hybrid Clustering Algorithms for Degenerate Primer Development on the GPU	NVIDIA	2014	Completed/Published	Spring 2014
Article	Long Timestep Molecular Dynamics on the Graphical Processing Unit	Journal of Chemical Theory and Computation	2013	Completed/Published	Fall 2013
Creative Work and Production	Prototype to Release: Software Engineering for Scientific Software	Stanford University	2012	Completed/Published	Summer 2012
Article	A Case Study on Developing a Classroom Application Using Behavior-Driven Development	American Journal of Undergraduate Research	2012	Completed/Published	Summer 2012
Presentation, Presented Papers, and Lectures	Narwhal: A Case Study on Developing a Classroom Application Using Behavior Driven-Development	Stetson University	2012	Completed/Published	Spring 2012
Article	The Mechanisms of Microtubule Catastrophe and Rescue: Implications from Analysis of a Dimer-Scale Computational Model	Mol Biol Cell	2011	Completed/Published	Fall 2011
Article	MDLab: A Molecular Dynamics Simulation Prototyping Environment	Journal of Computational Chemistry	2010	Completed/Published	Fall 2010
Presentation, Presented Papers, and Lectures	MDInter: A Molecular Dynamics Graphical User Interface	University of North Florida	2010	Completed/Published	Spring 2010
Article	From Genes to Organisms Via the Cell: A Problem-Solving Environment for Multicellular Development	Comput Sci Eng	2007	Completed/Published	Fall 2007
Article	MDL, A Domain-Specific Language for Molecular Dynamics	Simulation Symposium, 2007. ANSS '07. 40th Annual	2007	Completed/Published	Fall 2007
Presentation, Presented Papers, and Lectures	BioLogo Tutorial	Indiana University	2007	Completed/Published	Summer 2007
Presentation, Presented Papers, and Lectures	MDLab Tutorial	University of Minnesota	2007	Completed/Published	Summer 2007
Presentation, Presented Papers, and Lectures	Domain-Specific Languages in Computational Biology	University of Illinois at Urbana-Champaign	2006	Completed/Published	Summer 2006
Presentation, Presented Papers, and Lectures	CompuCell3D: A Problem Solving Environment for Multicellular Development	Indiana University	2006	Completed/Published	Summer 2006
Article	A Framework for Three-Dimensional Simulation of Morphogenesis	IEEE/ACM Transactions on Computational Biology and Bioinformatics	2005	Completed/Published	Fall 2005
Presentation, Presented Papers, and Lectures	BioLogo: A Domain-Specific Language for Morphogenesis	SIAM	2005	Completed/Published	Spring 2005

Article	ProtoMol, An Object-Oriented Framework for Prototyping Novel Algorithms for Molecular Dynamics	ACM Trans. Math. Softw.	2004	Completed/Published	Fall 2004
Article	CompuCell, A Multi-Model Framework for Simulation of Morphogenesis	Bioinformatics	2004	Completed/Published	Fall 2004
Presentation, Presented Papers, and Lectures	CompuCell: A Software Framework for Simulations of Morphogenesis	Indiana University	2004	Completed/Published	Spring 2004
Presentation, Presented Papers, and Lectures	BioLogo: An XML-Based Domain-Specific Language for Simulations of Morphogenesis	Indiana University	2003	Completed/Published	Spring 2003
Presentation, Presented Papers, and Lectures	BioLogo: An XML-Based Domain-Specific Language for Simulations of Morphogenesis	Western Illinois University	2003	Completed/Published	Spring 2003
Proceeding	Multi-Model Simulations of Chicken Limb Morphogenesis	Computational Science --- ICCS 2003: International Conference, Melbourne, Australia and St. Petersburg, Russia June 2-4, 2003 Proceedings, Part III	2003	Completed/Published	Spring 2003

COURSES TAUGHT

Spring 2018

Semester	Course Prefix	Course Number	Section	Course Title	Student Credit Hours	Enrollment	Credit Hours	Instruction Mode	Activity Considered Community Engagement/Community-Engaged Scholarship?
<u>Spring 2018</u>	CDA	3103	U02	Fund Computer System	0	39	3		No
<u>Spring 2018</u>	CDA	3103	U05	Fund Computer System	0	40	3		No
<u>Spring 2018</u>	CDA	4101	U01	Structure Comp Org	0	39	3		No
<u>Spring 2018</u>	CDA	4101	U02	Structure Comp Org	0	39	3		No
					0	157	12		

Fall 2017

Semester	Course Prefix	Course Number	Section	Course Title	Student Credit Hours	Enrollment	Credit Hours	Instruction Mode	Activity Considered Community Engagement/Community-Engaged Scholarship?
<u>Fall 2017</u>	CDA	3103	U02	Fund Computer System	0	41	3		No
<u>Fall 2017</u>	CDA	3103	U05	Fund Computer System	0	35	3		No
<u>Fall 2017</u>	CDA	4101	U01	Structure Comp Org	0	40	3		No
<u>Fall 2017</u>	CDA	4101	U02	Structure Comp Org	0	36	3		No
					0	152	12		

Spring 2017

Semester	Course Prefix	Course Number	Section	Course Title	Student Credit Hours	Enrollment	Credit Hours	Instruction Mode	Activity Considered Community Engagement/Community-Engaged Scholarship?
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Spring 2017	CDA	3103	U02	Fund Computer System	0	39	3		
Spring 2017	CDA	3103	U05	Fund Computer System	0	37	3		
Spring 2017	CDA	4101	U01	Structure Comp Org	0	35	3		
Spring 2017	CDA	4101	U02	Structure Comp Org	0	35	3		

					0	146	12		
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Fall 2016

Semester	Course Prefix	Course Number	Section	Course Title	Student Credit Hours	Enrollment	Credit Hours	Instruction Mode	Activity Considered Community Engagement/Community-Engaged Scholarship?
<u>Fall 2016</u>	CDA	3103	U02	Fund Computer System	117	39	3		
<u>Fall 2016</u>	CDA	3103	U05	Fund Computer System	105	35	3		
<u>Fall 2016</u>	CDA	4101	U01	Structure Comp Org	117	39	3		
<u>Fall 2016</u>	CDA	4101	U02	Structure Comp Org	117	39	3		

					456	152	12		
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Spring 2016

Semester	Course Prefix	Course Number	Section	Course Title	Student Credit Hours	Enrollment	Credit Hours	Instruction Mode	Activity Considered Community Engagement/Community-Engaged Scholarship?
<u>Spring 2016</u>	CDA	3103	U05	Fund Computer System	105	35	3		
<u>Spring 2016</u>	CDA	4101	U01	Structure Comp Org	105	35	3		

					210	70	6		
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Fall 2015

Semester	Course Prefix	Course Number	Section	Course Title	Student Credit Hours	Enrollment	Credit Hours	Instruction Mode	Activity Considered Community Engagement/Community-Engaged Scholarship?
<u>Fall 2015</u>	CDA	3103	U05	Fund Computer System	105	35	3		
<u>Fall 2015</u>	CDA	4101	U03	Structure Comp Org	87	29	3		

					192	64	6		
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TEACHING INNOVATION AND EVIDENCE OF OTHER RELEVANT TEACHING ACTIVITIES

Title	Innovation Type	Description	Other Activity Title	Other Activity Type	Description	Start Semester	End Semester
CS110M	Teaching	Survey Of Computing, Eckerd College				Fall 2008	Spring 2015
CS233	Teaching	Advanced Programming, University of Notre Dame				Summer 2007	Fall 2007

GPU Computing Projects	Use of technology and software,	Through NVIDIA's GPU Educators Program I use graphics cards and teaching materials to educate our CDA4101 students in GPU computing during the unit on parallelism.	Fall 2015	Ongoing
CS411	Teaching	Operating Systems, Eckerd College	Fall 2008	Spring 2015
CS143	Teaching	Introduction to Computer Science, Eckerd College	Fall 2008	Spring 2015
NA207N	New courses developed or significantly revised	Biology and The Game Of Life, Eckerd College	Fall 2008	Spring 2015
WHGC	Teaching	Western Heritage In A Global Context, Eckerd College	Fall 2010	Spring 2011
Evaluating Teaching Project	Other Activities related to teaching	SCIS faculty representative for a University-wide project involving the enhancement of teaching evaluation	Spring 2018	Ongoing
WT4N	New courses developed or significantly revised	Mathematical Patterns In Nature, Eckerd College	Fall 2008	Spring 2015
QFM	Teaching	Quest For Meaning, Eckerd College	Fall 2008	Spring 2015
CS410	Teaching	Computer Science Seminar, Eckerd College	Fall 2008	Spring 2015
CS320	Teaching	Programming Languages, Eckerd College	Fall 2008	Spring 2016
CS310	Teaching	Computer Architecture, plus lab, Eckerd College	Fall 2008	Spring 2016
Data Structures	Teaching	Data Structures, Eckerd College	Fall 2008	Spring 2015
CS415	Teaching	Computer Networks, Eckerd College	Fall 2008	Spring 2015
CS420	Teaching	Translators and Compilers, Eckerd College	Fall 2008	Spring 2016
Active Learning	Active learning techniques	I currently use active learning in my CDA-3103 and CDA-4101 courses with the help of the University's Learning Assistant program.	Fall 2015	Ongoing

FUNDED RESEARCH/GRANTS

Title	CoAuthors	Funding Agency/Sponsor	Start Date	End Date	Award Date	Total Funding	Status	Semester	Description	Activity Considered Community Engagement/Community-Engaged Scholarship?
Research Program Projects and Centers		National Institute of Justice	2017-08-01	2019-06-01		\$12,000.00	Funded - In Progress	Fall 2018		No
Improving Hands-On Learning of Computer Hardware		Florida International University	2018-08-01	2021-08-01		\$94,931.62	Submitted for Review	Fall 2018	Technology Fee	No
Miami Dade Cancer and Research Education Program in Ethnically Diverse Populations (MD CaREs)		National Institute of Health	2018-09-01	2022-08-31		\$511,208.00	Submitted for Review	Spring 2018		Yes

Analyzing and Modeling Microbiome Dynamics from Multi-Omics Time-Series Data	National Science Foundation	2018-07-31	2018-07-31	\$753,090.00	Submitted - Denied Funding	Fall 2017		No
Research Cluster Grant	Silicon Mechanics	2017-08-21		0	Submitted - Denied Funding	Spring 2017	Equipment	No
DaVIL, A Laboratory for Data Science	Florida International University	2017-08-21	2019-08-21	\$241,223.00	Submitted - Denied Funding	Spring 2017	Technology Fee	No
Florida IT Pathways to Success (FLIT-Path)	National Science Foundation	2017-01-09	2022-01-09	\$5,000,000.00	Funded - In Progress	Spring 2017		Yes
Network-Based Multi-Omic Longitudinal Microbiome Analysis	National Science Foundation	2017-08-01	2020-07-31	\$499,999.00	Submitted - Denied Funding	Fall 2016		No
Research Cluster Grant	Silicon Mechanics	2016-08-22		0	Submitted - Denied Funding	Spring 2016	Equipment	No
A GPU-Based High Performance Cluster for Instructional and Research Purposes	Florida International University	2016-08-01	2019-08-01	\$191,668.00	Submitted - Denied Funding	Spring 2016	Technology Fee	No
Data Intensive Academic Grid (DIAG)	University of Maryland	2016-01-11		0	Completed	Spring 2016	Equipment	No
Next Generation Microbiome Analysis	National Science Foundation	2016-07-01		\$927,426.00	Submitted - Denied Funding	Fall 2015		No
Social Networking Within Microbiomes	National Science Foundation	2015-07-01	2019-06-30	\$1,195,367.00	Submitted - Denied Funding	Fall 2014		No
CUDA Teaching Center Program	NVIDIA	2013-09-02		\$4,000.00	Funded - In Progress	Spring 2013		No
National Sciences Summer Research Program	Eckerd College, Through Howard Hughes Medical Institute	2012-06-04	2015-08-01	\$29,050.00	Completed	Summer 2012	Research/Travel	No
Faculty Development Grant	Eckerd College	2009-08-03	2015-08-01	\$10,800.00	Completed	Spring 2010	Travel	No

PROFESSIONAL HONORS, PRIZES, FELLOWSHIPS

Honor/Award Title	Year Conferred?	Conferring Organization	Semester
Excellence In Teaching (SCIS)	2017	Florida International University	Fall 2017

Kaneb Award For Excellence In Teaching	2006	University of Notre Dame	Spring 2006
Tenure and Promotion to Associate Professor	2014	Eckerd College	Spring 2014
OpenMM Visiting Scholars Program	2012	Stanford University	Summer 2012
Induction into UPE	2004	Upsilon Pi Epsilon	Spring 2004
Induction into TBP	2001	Tau Beta Pi	Fall 2001
Arthur J. Schmitt Graduate Fellowship	2002	University of Notre Dame	Fall 2002

UNIVERSITY COMMITTEES

Committee Name	Unit	Start Semester	End Semester	Level of Service	Responsibility
Instructor Hiring Committee	Office Of The Provost	Fall 2017	Ongoing	University	Member
Undergraduate Committee	Office Of The Provost	Fall 2016	Ongoing	College/School	Member

EXTERNAL SERVICE

Title	Organization	Description	Start Semester	End Semester	Activity Considered Community Engagement/Community-Engaged Scholarship?	Type of Service
Reviewer	Biology Direct		Spring 2018	Spring 2018	No	Professional
Reviewer	Chemistry: A European Journal		Spring 2017	Spring 2017	No	Professional
Reviewer	Journal of Computational Chemistry		Spring 2017	Spring 2017	No	Professional
Handbell Choir	Wayside Baptist Church		Fall 2015	Ongoing	No	Community
Worship Team	Miami Vineyard Community Church		Summer 2015	Ongoing	No	Community
Senior Thesis Committee, Galen Irving-Sachs	Eckerd College		Spring 2015	Spring 2015	No	Professional
Reviewer	Journal Of Computational Chemistry		Spring 2015	Spring 2015	No	Professional
Intercollegiate Athletics	Eckerd College		Fall 2014	Spring 2015	No	Professional
Graduate Fellowship Advisor	Eckerd College		Fall 2013	Spring 2014	No	Professional
Alumni Database Project	Academy Prep Middle School		Fall 2012	Spring 2013	Yes	Community
Discipline Coordinator, Department of Computer Science	Eckerd College		Fall 2012	Spring 2015	No	Professional
Faculty Observer to the Board of Trustees	Eckerd College		Fall 2011	Spring 2012	No	Professional
Admissions and Scholarships	Eckerd College		Fall 2011	Spring 2013	No	Professional
Choir	St. Mary's Church		Spring 2011	Spring 2011	No	Community
Writing Portfolio Reviewer	Eckerd College		Fall 2010	Spring 2015	No	Professional
Senior Thesis Committee, RJ Nowling	Eckerd College		Spring 2010	Spring 2010	No	Professional
Praise And Worship Band	Eckerd College		Fall 2009	Spring 2010	No	Community
Computer Policy Group	Eckerd College		Fall 2009	Spring 2011	No	Professional
Harvard Medical School/Center For Human Genetic Research Selection Committee	Eckerd College		Fall 2009	Spring 2015	No	Professional
Africa Initiative	Eckerd College		Fall 2009	Spring 2010	No	Community
Youth Ministry	Living The Legacy		Fall 2008	Spring 2013	No	Community

STUDENT SUPERVISION/MENTORING

Student Name	Degree/Program	Faculty Advisor Name	Affiliation (FIU or Other)	Brief statement outlining role in student mentoring	Start Semester	End Semester
Lawrence Irvin	Computer Science	Trevor Cickovski	Eckerd College	Summer Research Project	Summer 2015	Summer 2015

Various Students	CS/IT (Flit-Path)	Trevor Cickovski	FIU	Flit-Path	Spring 2018	Ongoing
Austin Vance	Computer Science	Trevor Cickovski	Eckerd College	Senior Thesis	Fall 2010	Spring 2012
James Parda	Computer Science	Trevor Cickovski	Eckerd College	Summer Research Project	Summer 2012	Summer 2012
Philip Novikov	Computer Science	Trevor Cickovski	Eckerd College	Summer Research Project	Summer 2012	Summer 2013
Tiffany Flor	Computer Science	Trevor Cickovski	Eckerd College	Summer Research Project	Summer 2013	Summer 2013
Galen Irving-Sachs	Computer Science	Trevor Cickovski	Eckerd College	Summer Research Project	Summer 2013	Summer 2013
Annie Rodgers	Chemistry	Trevor Cickovski	Eckerd College	Freshman Research Associateship	Fall 2013	Spring 2014
Hugo Riggs	Computer Science	Trevor Cickovski	Eckerd College	Summer Research Project	Summer 2014	Spring 2015
Cameron Davis	Computer Science	Trevor Cickovski	Eckerd College	Summer Research Project	Summer 2015	Summer 2015
Eli Peake	Computer Science	Trevor Cickovski	Eckerd College	Summer Research Project	Summer 2015	Summer 2015
Stephen Felman	Computer Science	Trevor Cickovski	Eckerd College	Summer Research Project	Summer 2014	Summer 2014
Kyle Kempton	Computer Science	Trevor Cickovski	Eckerd College	Summer Research Project	Fall 2014	Fall 2014

OFFICES HELD IN PROFESSIONAL SOCIETIES

2007 - Ongoing

Institute of Electrical and Electronics Engineers

Association for Computing Machinery

American Association of University Professors

PROFESSIONAL DEVELOPMENT

Title	City	State	CPE Hours	Start Semester	End Semester
ACM Special Interest Group on Computer Science Education	Seattle	Washington	24	Spring 2017	Spring 2017
Plugin-Based Microbiome Analysis (PluMA)			0	Spring 2015	Ongoing
GPU Biofilm Image Processing			0	Fall 2014	Spring 2015
GPUDePiCt			0	Summer 2012	Ongoing
Narwhal			0	Fall 2010	Spring 2012
Molecular Dynamics Lab			0	Fall 2004	Ongoing
CompuCell3D			0	Summer 2002	Spring 2008
ProtoMol			0	Summer 2001	Ongoing