

Patrick J. Donnelly

CONTACT INFORMATION	Department of Computer Science Oregon State University-Cascades, Bend, OR 99702	(541) 706-2071 patrick.donnelly@osucascades.edu
RESEARCH INTERESTS	Machine Learning, Artificial Intelligence, Data Mining, Educational Data Mining, Signal Processing, Computational Musicology, Sound Synthesis, Music Perception, Computer Science Pedagogy	
EDUCATION	Montana State University , Bozeman, MT <i>Doctor of Philosophy (Ph.D) in Computer Science</i> August 2015 Dissertation: <i>Learning Spectral Filters for Single- & Multi-label Classification of Musical Instruments</i> Johns Hopkins University , Baltimore, MD <i>Master of Science in Engineering (MSE) in Computer Science</i> May 2008 Peabody Conservatory of the Johns Hopkins University , Baltimore, MD <i>Master of Music (MM) in Computer Music Research & Technology</i> May 2008 <i>Master of Music (MM) in Musicology</i> May 2008 Washington University , Saint Louis, MO <i>Artium Baccalaureus (AB) in Music History and Italian</i> May 2004 <i>Bachelor of Science (BS) in Computer Science (cum laude)</i> May 2004	
PROFESSIONAL EXPERIENCE	Oregon State University – Cascades , Bend, OR <i>Assistant Professor</i> September 2019 – present California State University – Chico , Chico, CA <i>Assistant Professor</i> January 2017 – May 2019 University of Notre Dame , Notre Dame, IN <i>Postdoctoral Researcher</i> August 2015 – July 2017 Montana State University , Bozeman, MT <i>Adjunct Instructor</i> September 2011 – June 2015 <i>Research Assistant</i> January 2011 – August 2011 <i>Teaching Assistant</i> September 2010 – May 2011 Johns Hopkins University , Baltimore, MD <i>Teaching Assistant</i> September 2008 – December 2009 <i>Teaching Assistant, online courses</i> January 2011 – May 2012 Sound and Music Perception Laboratory (SaMPL) , Department of Otolaryngology, Johns Hopkins Medical Institute , Baltimore, MD <i>Research Assistant</i> September 2006 – May 2010 Peabody Conservatory of the Johns Hopkins University , Baltimore, MD <i>Teaching Assistant</i> January 2006 – May 2008 <i>Graduate Assistant</i> September 2005 – May 2008 Control MicroSystems , Fenton, MO <i>Embedded Systems Programmer (ASM, BASIC, C)</i> September 2002 – August 2005	

- C. Stone, **P.J. Donnelly**, M. Dale, S. Capello, S.P. Kelly, A. Godley, & S.K. D’Mello. Utterance-level Modeling of Indicators of Engaging Classroom Discourse in *International Conference on Educational Data Mining (EDM)*, pp. 420-25. International Educational Data Mining Society, 2019.
- A. Stewart, N. Bosch, H. Chen, **P.J. Donnelly**, and S.K. D’Mello. “Face Forward: Detecting Mind Wandering from Video During Narrative Film Comprehension,” in *International Conference on Artificial Intelligence in Education (AIED)*, pp. 359–370, Springer, 2017.
- A.M. Olney, B. Samei, **P.J. Donnelly**, and S.K. D’Mello. “Assessing the Dialogic Properties of Classroom Discourse: Proportion Models for Imbalanced Classes,” in *International Conference on Educational Data Mining (EDM)*, pp. 162–167, 2017.
- P.J. Donnelly**, N. Blanchard, A.M. Olney, S. Kelly, M. Nystrand, and S.K. D’Mello, “Words matter: Automatic detection of questions in classroom discourse using linguistics, paralinguistics, and context,” in *International Conference on Learning Analytics & Knowledge (LAK)*, pp. 218–227. ACM, 2017.
- P.J. Donnelly**, N. Blanchard, B. Samei, A.M. Olney, X. Sun, B. Ward, S. Kelly, M. Nystrand, and S.K. D’Mello, “Multisensory modeling of teacher instructional strategies in live classrooms,” in *International Conference on Multimodal Interaction (ICMI)*, pp.177–184, ACM, 2016.
- N. Blanchard, **P.J. Donnelly**, A.M. Olney, B. Samei, X. Sun, B. Ward, S. Kelly, M. Nystrand, and S.K. D’Mello, “Identifying teacher questions using automatic speech recognition in live classrooms,” in *Special Interest Group on Discourse and Dialogue (SIGDIAL)*, pp. 191–201, AAAI, 2016.
- P.J. Donnelly**, N. Blanchard, B. Samei, A.M. Olney, X. Sun, B. Ward, S. Kelly, M. Nystrand, and S.K. D’Mello, “Automatic teacher modeling from live classroom audio,” in *User Modeling, Adaptation and Personalization (UMAP)*, pp. 45–53, ACM, 2016. **Outstanding Paper Award**
- A. Stewart, N. Bosch, H. Chen, **P.J. Donnelly**, and S.K. D’Mello, “Where’s your mind at? Facial feature based mind wandering detection during film watching,” in *User Modeling, Adaptation and Personalization (UMAP)*, pp. 295–296, ACM, 2016.
- N. Blanchard, **P.J. Donnelly**, A.M. Olney, B. Samei, X. Sun, B. Ward, S. Kelly, M. Nystrand, and S.K. D’Mello, “Automatic detection of teacher questions from audio in live classrooms,” in *Educational Data Mining (EDM)*, pp. 288-291, 2016.
- S. Hutt, C. Mills, S. White, **P.J. Donnelly**, and S.K. D’Mello, “The eyes have it: Gaze-based detection of mind wandering during learning with an intelligent tutoring system,” in *Educational Data Mining (EDM)*, pp. 86–93, 2016. **Exemplary Paper: Top 15%**
- P.J. Donnelly** and J.W. Sheppard, “Cross-dataset validation of feature sets in musical instrument classification,” in *International Conference on Data Mining (ICDM) Workshop on Big Media Data: Understanding, Search, and Mining*, pp. 94–101, IEEE, 2015.
- P.J. Donnelly** and J.W. Sheppard, “Clustering spectral filters for extensible feature extraction in musical instrument classification,” in *Twenty-Seventh Florida Artificial Intelligence Research Society (FLAIRS) Conference*, pp. 37–42, Association for the Advancement of Artificial Intelligence, 2014.
- L.E. Sturlaugson, N. Fortier, **P.J. Donnelly**, and J.W. Sheppard, “Implementing AI-ESTATE with prognostic extensions in Java,” in *AUTOTESTCON*, pp. 1–8, IEEE, 2013.
- T.W. Riddle, **P.J. Donnelly**, D.S. Cairns, and J.W. Nelson, “Use of statistical learning in a reliability program for risk assessment of composite structures with defects,” in *54th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference*, American Institute of Aeronautics and Astronautics, 2013.
- P.J. Donnelly**, L.E. Sturlaugson, and J.W. Sheppard, “A standards-based approach to gray-scale health assessment using fuzzy fault trees,” in *AUTOTESTCON*, pp. 174–181, IEEE, 2012.
- P.J. Donnelly** and J.W. Sheppard, “Evolving four-part harmony using genetic algorithms,” in *Applications of Evolutionary Computation*, pp. 273–282, Springer, 2011.
- J.W. Sheppard, S.G. Butcher, and **P.J. Donnelly**, “Demonstrating semantic interoperability of diagnostic reasoners via AI-ESTATE,” in *Aerospace Conference*, pp. 1–10, IEEE, 2010.

	J.W. Sheppard, S.G. Butcher, and P.J. Donnelly , “Standard diagnostic services for the ATS framework,” in <i>AUTOTESTCON</i> , pp. 393–400, IEEE, 2009.	
	J.W. Sheppard, S.G. Butcher, P.J. Donnelly , and B.R. Mitchell “Demonstrating semantic interoperability of diagnostic models via AI-ESTATE,” in <i>Aerospace Conference</i> , pp. 1–13, IEEE, 2009.	
JOURNAL ARTICLES	S. Kelly, S.K. D’Mello, A.M. Olney, P.J. Donnelly , & M. Nystrand. “Automatically Detecting Question Authenticity in Real-World Classrooms”, <i>Educational Researcher</i> , 2018.	
	P.J. Donnelly and J.W. Sheppard, “Classification of musical timbre using Bayesian networks,” <i>Computer Music Journal</i> , vol. 37, no. 4, pp. 70–86, 2013.	
	I. Kim, E. Yang, P.J. Donnelly , and C.J. Limb, “Preservation of rhythmic clocking in cochlear implant users: a study of isochronous versus anisochronous beat detection,” <i>Trends in Amplification</i> , vol. 14, no. 3, pp. 164–169, 2010.	
	P.J. Donnelly , B. Z. Guo, and C.J. Limb, “Perceptual fusion of polyphonic pitch in cochlear implant users,” <i>The Journal of the Acoustical Society of America</i> , vol. 126, no. 5, pp. EL128–EL133, 2009.	
BOOK CHAPTERS	A.M. Olney, S. Kelly, B. Samei, P.J. Donnelly , & S.K. D’Mello. “Assessing teacher questions in classrooms.” In Sottolare et al. (Eds.). <i>Design Recommendations for Intelligent Tutoring Systems: Volume 5–Assessment</i> , pp. 261-274. Orlando, FL: U.S. Army Research Laboratory, 2017.	
	P.J. Donnelly and C. J. Limb, Music perception in cochlear implant users, in <i>Cochlear implants: principles & practices</i> (J. K. Niparko, ed.), pp. 223–228, Lippincott Williams & Wilkins, 2009.	
	P.J. Donnelly and C.J. Limb, “Music,” in <i>New Encyclopedia of Neuroscience</i> (L. Squire, ed.), Elsevier, 2008.	
EXTERNAL FUNDING	EXP: Cyber-Enabled Teacher Discourse Analytics to Empower Teacher Learning Agency: National Science Foundation PIs: D’Mello (UC-Boulder, PI), Donnelly (CSUC, PI) , Kelly (Pittsburgh, PI) Amount: \$549,394 (\$50,000 to CSUC) Period: 2017 – 2020	2017
	Intel University Donation Program: Montana State University (\$1400)	2014
INTERNAL FUNDING	Student Learning Fee Grant “Lab Assistants for Computer Science”, CSU-Chico (\$16,128)	2019
	Student Learning Fee Grant “Lab Assistants for Computer Science”, CSU-Chico (\$12,600)	2018
	Equipment Fee Allocation Committee (EFAC), Montana State University (\$3379)	2015
	Center for Educational Resources, Johns Hopkins University (\$4000/year)	2007; 2008
HONORS, AWARDS, TRAINING	<i>Enrichment for Mid-Career Faculty Summer Enrichment</i> , Certificate, Magna Publications	2019
	<i>Grant Proposal Writing Workshop</i> by Grant Writers’ Seminars & Workshops LLC	2016-2017
	Outstanding Paper Award, UMAP 2016, Halifax, Nova Scotia	2016
	Computer Science “Professor of the Year” (Student Selected), MSU	2014-2015
	Three Minute Thesis Competition, Montana State University Finalist	2015
	Best Student Paper Runnerup, AUTOTESTCON 2013, Chicago, IL	2013
	Computer Science “Teaching Assistant of the Year” (Faculty Selected), MSU	2010-2011
SERVICE	Chico State, Upsilon Pi Epsilon (honors society) student, Advisor	2018-2019
	Chico State, Computer Science Faculty Search Committee, Member	2018-2019
	Chico State, University Student Evaluation Committee, Member	2018-2019
	Chico State, Computer Science Tenure and Promotion Committee, Member	2017-2018
	Montana State University School of Music Faculty Search Committee, Member	2011-2012

TEACHING
EXPERIENCE

Oregon State University – Cascades

Analysis of Algorithms (CS 325)

Fall 2019

California State University – Chico

Programming and Algorithms II (CSCI 211)

Spring 2019

Programming Languages (CSCI 315)

Spring 2019

Computer Science Capstone (CSCI 490)

Spring 2019

Artificial Intelligence (CSCI 580)

Spring 2019

Programming and Algorithms II (CSCI 211)

Fall 2018

Computer Science Capstone (CSCI 490)

Fall 2018

Artificial Intelligence (CSCI 580)

Fall 2018

Programming and Algorithms II (CSCI 211)

Spring 2018

Programming Languages (CSCI 315)

Spring 2018

Computer Science Capstone (CSCI 490)

Fall 2017

Programming and Algorithms II (CSCI 211)

Fall 2017

Programming and Algorithms I (CSCI 111)

Spring 2017

Montana State University

Basic Data Structures and Algorithms (CSCI 132)

Summer 2015

Concepts of Programming Languages (CSCI 305)

Spring 2015

Programming with C (CSCI 112)

Spring 2015

Database Systems (CSCI 440)

Fall 2014

Computer Architecture (CSCI 361)

Fall 2014

Sound Synthesis and Design (MUST 341)

Fall 2014

Concepts of Programming Languages (CSCI 305)

Spring 2014

Sound Synthesis and Design (MUST 341)

Fall 2013

Concepts of Programming Languages (CSCI 305)

Spring 2013

Music History I (MUSI 301)

Spring 2013

Computer Architecture (CSCI 361)

Fall 2012

Music History II (MUSI 302)

Fall 2012

Sound Synthesis and Design (MUST 341)

Fall 2012

Independent Stud: Musicological Research (MUSI 492)

Spring 2012

Real-Time Computer Music (MUST 350)

Spring 2012

Sound Synthesis and Design (MUST 341)

Fall 2011

COURSE
DEVELOPMENT

Artificial Intelligence (CSCI 580), California State University, Chico

2018-2019

redesigned as a blended course through CSU's Quality Learning & Teaching.

SKILLS

Programming

Java, Matlab, C, C++, Perl, Python, Dart, PHP, SQL, Assembly, Scheme, OCaml, BASIC, Pascal, Prolog, eCLiPSe

Data

L^AT_EX, Lillypond, VB in Excel, HTML, XML, SPSS, Pandas

Music

Max/MSP, PD, CSound, SuperCollider, Logic, Audacity

Teaching

Canvas, Blackboard, D2L, Sakai, WebCT, Moodle, Respondus

Language

Italian, *fluent*; Latin, *reading*; German, *translation*