

Anthony J. Perritano, Curriculum Vita

Computer Science Ph.D. Candidate

Department of Computer Science

Electronic Visualization Laboratory (EVL)

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Education

Ph.D. in Computer Science, 2019 (Expected)

University of Illinois at Chicago (UIC), Chicago, Illinois

Dissertation Title: Knowledge Places: Embedding Knowledge in the Space of the Classroom

Dissertation Committee:

Prof. Tom Moher (advisor), Computer Science, University of Illinois at Chicago (UIC)

Prof. Andy Johnson, Computer Science, University of Illinois at Chicago (UIC)

Prof. Chris Kanich, Computer Science, University of Illinois at Chicago (UIC)

Prof. Joel Brown, Biological Sciences, University of Illinois at Chicago (UIC)

Prof. James Slotta, Education, University of Toronto

Prof. Yvonne Rogers, Computer Science, University College London (UCL)

B.A in Fine Art Painting and Photography, 2006-2008 (2 yrs. completed)

San Francisco State University (SFSU), San Francisco, California

B.S. in Software Engineering, 2003

Rochester Institute of Technology (RIT), Rochester, New York

Awards

Wexler Scholar, 2012

University of Illinois at Chicago (UIC), Chicago, Illinois

Awarded the Peter and Deborah Wexler College of Engineering Graduate Student Scholarship

Publications

De Jong, T., Van Joolingen, W. R., Giemza, A., Girault, I., Hoppe, U., Perritano, A., ... & Weinbrenner, S. (2010). Learning by creating and exchanging objects: The SCY experience. *British Journal of Educational Technology*, 41(6), 909-921.

Gnoli, A., Perritano, A., Guerra, P., Lopez, B., Brown, J., & Moher, T. (2014, February). Back to the future: embodied classroom simulations of animal foraging. In *Proceedings of the 8th*

International Conference on Tangible, Embedded and Embodied Interaction (pp. 275-282). ACM.

Moher, T., Ching, C.C., Schaefer, S., Lee, V.R., Enyedy, N., Danish, J.A., Guerra, P., Gnoli, G., Pazmino, P.J., López Silva, B.A., Lyons, L., Perritano, A., Slattery, B., Tissenbaum, M., Slotta, J.D., Cober, R., Fong, C., Rubin, A. (2014). Becoming Reflective: Designing for Reflection on Physical Performances. *Proceedings of the 11th International Conference of the Learning Sciences*. Volume 3. 12731282. International Society of the Learning Sciences (ISLS).

Moher, T., Slotta, J.D., Acosta, A., Cober, R., Dasgupta, C., Fong, C., Gnoli, A., Silva, A., Lopez Silva, B., and Perritano, A. (2015) Knowledge Construction in the Instrumented Classroom: Supporting Student Investigations of Their Physical Learning Environment. *Proceedings of the 11th International Conference on Computer Supported Collaborative Learning*, Gothenburg, Sweden, June 2015, 631-638

Smørdal, O., Perritano, A., & Sem, I. (2010). Multi context, multi representation, multi touch. In Luyten, K., Vanacken, D., Weiss, M., Borchers, J., Izadi, S., & Wigdor, D. (2010, June). Engineering patterns for multi-touch interfaces. In *Proceedings of the 2nd ACM SIGCHI symposium on Engineering interactive computing systems* (pp. 365-366). ACM.

Posters

Perritano, A., Gnoli, A., & Moher, T. *Hunger Games: Expanding the Pedagogical Design Space with Indoor Spatial Technologies*. Poster presented to the 11th International Conference Computer-Supported Collaborative Learning Conference (CSCL), June 7-11. Gothenburg, Sweden.

Colloquia and Invited Talks

Perritano, A (2016) *Knowledge Places: Embedding Knowledge in the Space of the Classroom*.

Invited presentation to the Collaborative Learning Lab (CoLearnLab), University of Illinois at Urbana-Champaign, Dec. 1, Urbana-Champaign, Illinois

Perritano, A (2015) *Hunger Games: Expanding the pedagogical design space with indoor spatial technologies*, The 11th International Conference on Computer-Supported Collaborative Learning (CSCL), June 7-11. Gothenburg, Sweden.

Research Experience

Research Assistant, 2012 – 2018

Computer Science Ph.D. Candidate

Dept. of Computer Science

Electronic Visualization Laboratory (EVL)

University of Illinois at Chicago, Chicago, Illinois

Description

Research centered at the intersection of Human-Computer Interaction (ubiquitous computing, proxemic interaction, tangible computing, and ambient visualization) and Learning Science

(whole-class participatory science simulations and knowledge Communities) with professor Tom Moher. This research is part of a broader (5-year NSF Funded) research program called EPIC (Embedded Phenomena for Inquiry Communities) – a collaboration between Dr. Tom Moher (Embedded Phenomena) and Dr. James Slotta (Knowledge Community Inquiry (KCI)). I worked in cohort forwarding the boarder researcher program as a researcher and as a technology designer-developer on several projects over the years.

Development and Design activities

Design, development, and deployment of experiments in primary school classroom-based Computer Science research and Learning Science research. This includes technology development, interaction design, and programming situated in real classroom environments using a diverse set of programming languages and interaction paradigms (e.g., iOS, Android, JavaScript, Swift, Java, multi-touch interaction, ubiquitous computing, etc.) and environments (e.g., tablets, web, and desktop) for students, teachers, and researchers running in real classroom environments.

Research activities

Planning, organizing, writing, and presentation of research; collecting and analyzing research data, implementation, facilitation, and management of the fieldwork in classrooms, teacher support, co-designing enactments and interventions with teachers.

Project Work

HelioRoom Classroom Study, Spring 2013

University of Toronto Laboratory School, Toronto, Canada

Hunger Games Classroom Study, Fall 2013

Chicago Partner School, Chicago, Illinois

Neighborhood Safari Study, Spring 2014

Chicago Partner School, Chicago, Illinois and University of Toronto Laboratory School, Toronto, Canada

RoomQuake Classroom Study, Fall 2014

Chicago Partner School, Chicago, Illinois

Solar Classroom Study, Spring 2015

University of Toronto Laboratory School, Toronto, Canada

Wallcology Classroom Study, Fall 2015

Chicago Partner School, Chicago, Illinois

Wallcology and Knowledge Places (Dissertation) Classroom Study, Fall 2016

Chicago Partner School, Chicago, Illinois

Senior Scientific Software Engineer, 2009 – 2012

Intermedia Research Group

Forskningsparken (Innovation Centre)

University of Oslo, Oslo, Norway

Description

Project Lead, UX/Interaction Designer, Software Engineer and Programmer for an interdisciplinary research, design, and development center with a focus on developing interactive multi-media based mixed-reality and hybrid (physical-digital) spaces and immersive experiences that went beyond traditional screen-based interaction. Focusing on educational research for k-12 classrooms and museum settings.

Development and Design Activities

Research and development of new technologies (e.g., tabletop computers, tangible computing frameworks), selecting software platforms, languages, frameworks, SDK's, processes, designs for projects. Developing and designing technology for projects, e.g., iOS applications, design, and development of multi-touch table/wall applications and hardware, design and implementation of smart classroom/smart room technologies (awareness and proximity mechanisms, agents, tangible technologies), design and development of server infrastructure and web services. Responsible for communication of plans, technical designs, and presentations among a range of stakeholders including researchers and other technologists (for some of whom English is not their first language).

Research Activities

Deployed and supported the technology deployments at Norwegian secondary classrooms and museums. Also partner institutions in continental Europe. Contributed to publications and traveled extensively to international universities and conference settings to attend meetings, workshops and to collaborate on projects. Facilitated several project-based workshops with researchers, project partners, and technologists.

Project Work

Science Created by You (SCY), 2009 – 2012

Europe Union Project

Collaboration with 16 European Institutions

Snøkult (translated as snowball), 2010-2011

Collaboration with the Norwegian architectural firm Snøhetta

(Edward) Munch and Multimodality, 2011

Collaboration with the Norwegian National Museum of Art (Norsk Nasjonalmuseet)

MIRACLE (Mixed Reality Interactions Across Contexts of Learning), 2010 – 2012

Collaboration with Norwegian Museum of Science and Technology (Norsk Teknisk Museet)

Research Software Engineer, 2003 – 2009

Technology Enhanced Learning in Science (TELS) Research Group

Graduate School of Education

University of California at Berkeley, Berkeley, California

Description

Worked as a software engineer with TELS researchers to design, develop, and implement the next generation of the WISE (Web Inquiry Science Environment) platform for secondary school science learning.

Development and Design Activities

Designed and architected open source learning systems used in secondary school classrooms. Developed applications with Java technologies in the areas of Portals, Messaging, Peer-to-Peer Networking, Web Services, Content Repositories, Rich Clients. Used toolkits such as Java Swing, Spring-MVC, AJAX, and ActiveMQ. Also mentored junior programmers.

Research Activities

Deployed and supported the technology deployments at San Francisco Bay Area secondary classrooms – including support for data collection efforts. Supported WISE partner teachers and researchers during professional development workshops. Traveled internationally to universities and conference settings to attend meetings, workshops and to collaborate on projects.

Other Professional Experience

Software Engineer, 3/2001 - 8/2001 and 3/2002 - 8/2002

IBM

Eclipse Enterprise Java Tooling Team

Description

Software and QA engineer on the WebSphere enterprise java tooling team. Developing eclipsed-based tools to support end-to-end J2EE applications. Testing tooling to support end-to-end J2EE applications.

Teaching Experience

Teaching Assistant, Dept. of Computer Science, University of Illinois at Chicago (UIC), Spring 2018

Course

Human Computer Interaction (HCI), CS422

Description

An implementation of the MIT open courseware course: *User Interface Design and Implementation* with a class population of 70 students: 12 graduate students (4 PhD and 8 MS) and 58 undergraduates from diverse backgrounds and skill levels.

Duties

Supporting the Professor in the delivery of course curriculum. Teaching recitations on general OO/functional programming, web programming, algorithms, HCI concepts and research methods. Advising students on research assignments and semester long group projects. Grading and creating rubrics for written and programming assignments. Tutoring students individually and in groups.

Service Activities

Program Committee

Interactive Posters and Demos, CSCW, 2018

Peer Review (Journals)

IEEE Transactions on Learning Technologies

Peer Review (ACM Conferences: 50+ papers)

Human Factors in Computing Systems (CHI), CHI PLAY, CSCW, Virtual Reality Software and Technology (VRST), Interaction Design and Children (IDC), Tangible Embedded and Embodied Interactions (TEI), Spatial User Interaction (SUI), User Interface Software and Technology (UIST), Interactive Surfaces and Spaces (ISS), Mobile HCI, AutomotiveUI, Interactive Experiences for Television and Online Video (TVX), Intelligent Tutoring Systems (ITS)

Skill Sets

Programming Languages

JavaScript, HTML, CSS, Swift, Objective-C, Python, C/C++, Java, SQL

Development Platforms, Development Tools, Toolkits, and Libraries

iOS, Android, Web, Linux, XCode, IntelliJ, Android Studio, PyCharm, WebStorm, VSCode, iOS SDK, Android SDK, Node.js, Meteor, React.js, D3.js, Material-UI (React), git, json, NumPy, D3.js, Matplotlib, SQL and Non-SQL databases, Docker

Design and Development Skills

Object Oriented Design, Software Engineering, Design Patterns, Web Services, User Interface Design, Architecture Design, Algorithms Design, Agile Methods, Managing Junior Developers, Peer-coding, Opensource Community Stewardship.

Research Skills

Data analysis (Python-based Jupyter), Visualization Techniques (D3.js), Statistical Methods, Literature Review (Computer Science and Education Research), Video Coding, Study Design, Planning, Organization, and Management (with teachers and researchers), Study Field Work

Notable Graduate Coursework

Introduction to Artificial Intelligence (CS411)

Introduction to the theoretical foundations of Artificial Intelligence (AI) and Machine Learning (ML). Including the practice in building AI components and rational agents.

Multimedia Systems: Interaction Design and Children (CS523)

Interdisciplinary Computer Science course with Design and Learning Science graduate students to explore, design, develop, and implement prototypes of interactive spaces for children (0-12 ages).

Data Visualization and Analytics (CS524)

Researching the cutting edge of data visualization techniques and methods.

Computational Ecology (CS594)

Interdisciplinary course in which Computer Science graduate students and faculty from UIC collaborate with Ecology graduate students and faculty from Princeton on joint research projects that combine Ecology research with computational methods. Course included conducting field work at the Mpala Research Centre, Kenya, Africa

Professional Affiliations

Association for Computing Machinery (ACM)

Institute of Electrical and Electronics Engineers (IEEE)

International Society of the Learning Sciences (ICLS)

American Educational Research Association (AERA)