

Aline Normoyle, PhD

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Education

University of Pennsylvania

Ph.D. Computer Science	2009-2015
M. Eng. Computer Graphics and Game Technology	2009

McGill University

B.Sc. Honors Computer Science, Dean's Honor List	1999
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Employment History

Academic Employment, Internships, and Visiting Positions

Bryn Mawr College, Assistant Professor	2020-Current
Swarthmore College, Visiting Assistant Professor	2016-2020
Clemson University, Consultant	2017-2018
Recurse Center	2016
Robotics Institute, Carnegie Mellon University, Research Assistant	2011-2012
Disney Research Imagineer	Summer 2011

Professional Employment

Savvy Sine LLC, Sole Proprietor	2018-Current
Venturi Labs LLC, Director of Software Development	2017-2020
Moon Collider Ltd, AI Programmer and Researcher	2015-2016
SIG Center, University of Pennsylvania, Associate Director	2012-2013
ACASA, University of Pennsylvania, Sr. Programmer/Analyst	2006-2008
MAK Technologies, Sr. Software Engineer	1999-2006

Peer-Reviewed Publications

Adkins, A.; Normoyle, A.; Lin, L.; Sun, Y.; Ye, Y.; Di Luca, M.; Jörg, S., "How Important are Detailed Hand Motions for Communication for a Virtual Character?", ACM Transactions on Graphics *accepted with minor revisions*

Adkins, A., Lin, L., Normoyle, A., Canales, R., Ye, Y., Jörg, S., "Evaluating grasping visualizations and control modes in a VR game". ACM Transactions on Applied Perception (TAP), 2021, 18(4), doi: 10.1145/3486582

Mainardi G., Normoyle A., Cassol V., Badler N. I. and Musse S. R., "An authoring tool to provide group and crowd animation using Natural Language scripts," 20th Brazilian Symposium on Computer Games and Digital Entertainment (SBGames), 2021, doi: 10.1109/SBGames54170.2021.00027

Canales, R., Normoyle, A., Sun, Y., Ye, Y., Di Luca, M., Jörg, S., "Virtual Grasping Feedback and the Virtual Hand Ownership", Symposium on Applied Perception, 2019

Cheng, Y., Normoyle, A., "The Q*bird Level Designer: User-assisted procedural level design in augmented reality", Motion in Games, 2019

Lin, L., Normoyle, A., Adkins A., Sun, Y., Robb, A., Ye, Y., Di Luca, M., Jörg, S., "The Effect of Hand Size and Interaction Modality on the Virtual Hand Illusion", IEEE VR, 2019

Chow, K., Nicewinter, J., Normoyle, A., Erickson, C., Badler, N.I., "Crowd and procession hypothesis testing for large-scale archaeological sites", MARCH Workshop, IEEE International Conference on Artificial Intelligence And Virtual Reality, 2019

- Normoyle, A., Jörg, S., “The effect of animation controller and avatar on player perceptions”, Computer Animation and Virtual Worlds, 2016
- Normoyle, A., Jensen, S. T., “Discovery of Latent Play Styles for Improved Game Matching and Prediction”, AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment, 2015.
- Normoyle, A., Jörg, S. “Trade-offs between Responsiveness and Naturalness for Player Characters”, ACM SIGGRAPH conference in Motion in Games, 2014 (won best paper)
- Normoyle, A., Guerrero, G., Jörg, S., “Player perception of delays and jitter in character responsiveness”, ACM Symposium on Applied Perception, 2014
- Normoyle, A., Likhachev M., Safonova A., “Stochastic activity authoring with direct user control”, ACM SIGGRAPH Symposium on Interactive 3D Graphics and Games, 2014
- Normoyle, A., Badler, J., Fan T., Badler, N.I., Cassol, V., Musse, S., “Evaluating perceived trust from procedurally animated gaze”, ACM SIGGRAPH conference in Motion in Games, 2013
- Normoyle, A., Liu, F., Kapadia, M., Badler, N.I., Jörg, S., “The Effect of Posture and Dynamics on the Perception of Emotion”, ACM Symposium on Applied Perception, 2013 (won best student presentation)
- Normoyle, A., Drake, J., Likhachev, M., Safonova, A., “Game-based Data Capture for Player Metrics” AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment, 2012.
- Joerg, S., Normoyle, A., Safonova, A., “How Responsiveness Affects Players’ Perception in Digital Games” ACM Symposium on Applied Perception, 2012.
- Zhao, L., Normoyle, A., Khanna, S., Safonova, A., “Automatic Construction of a Minimum Size Motion Graph” ACM SIGGRAPH/Eurographics Symposium on Computer Animation, 2009.
- Silverman, B.G., Normoyle A., Kannan P., Pater R., Chandrasekaran, D., Bharathy G., “An embeddable testbed for insurgent and terrorist agent theories: InsurgiSim” Intelligent Decision Technologies, Volume 2 Issue 4, 2008, 193-203
- Summers, V.A., Normoyle, A., Flo R., “Increasing Situational Awareness by Combining Realistic and Non-Realistic Rendering Techniques” 10th International Command and Control Research and Technology Symposium 2005

Technical reports, posters, workshops, and talks

- Normoyle A., Artacho B., Savakis A., Senghas A., Badler N. I., Occhino C., Rothstein S. J., Dye M. W. G., “Open-Source Pipeline for Skeletal Modeling of Sign Language Utterances from 2D Video Sources”, 14th International Conference on Theoretical Issues in Sign Language Research (TISLR 14), 2022, Stage Presentation
- Normoyle A., Rothstein S. J., and Badler N. I., “Quantifying sign-language movement kinematics from video”, Poster, ACM SIGGRAPH Symposium on Interactive 3D Graphics and Games (i3D ’21). 2021
- Lane, S. H. Normoyle, A., “Civic Portal: Virtual Monuments”, Fast Forward Philly, 2018
- “Procedural Art Pop-up“, Recurse Center, Hosted by the School of Machines, Making, and Make Believe, Berlin, December 2017
- Sunshine-Hill, B., Normoyle, A., “How to use machine learning like a responsible adult” , AI Summit, Game Developer Conference, 2015
- Normoyle, A., Badler N. I., “How do stylistic motions differ numerically from neutral ones?”, ACM SIGGRAPH conference in Motion in Games, 2014
- Normoyle, A., Drake, J., Safonova, A., “Egress Online: Towards leveraging massively, multiplayer environments for evacuation studies”, University of Pennsylvania Department of Computer and Information Science Technical Report No. MS-CIS-12-15. 2012
- Knight, K.M., Chandrasekaran, D., Normoyle, A., Weaver, R., Silverman, B.G., “Modeling Transgressions in PMF-serv” AAAI-08 COIN Workshop

Patents

Lane S.H., Boyd-Surka M., Yaoyi Bai, Aline Normoyle, “Methods, Systems, and Computer Readable Media for Augmented Reality User Interface”, US Patent (application number: 63/070,674, submitted August 26, 2020)

Grants Received

National Science Foundation, 2019-2022, “Collaborative Research: Multimethod Investigation of Articulatory and Perceptual Constraints on Natural Language Evolution” (Award 1749397)

Swarthmore Faculty Research Support Award, 2018-2019, “Game-based experiment platform development”

Wharton Customer Analytics Initiative, 2014, “Discovery of Latent Play Styles for Improved Game Matching and Prediction”

Working papers

Normoyle, A., Jensen S. T., “Bayesian Learning of Play Styles in Multiplayer Video Games”. CoRR abs/2112.07437, 2021

Sedoc, J., Normoyle, A., “Seating Assignment Using Constrained Signed Spectral Clustering”. CoRR abs/1708.00898, 2017

Selected Open Source Software

Normoyle, A. AGL: A Graphics Library. *Small, easy to use C++ library for 3D drawing, based on OpenGL.* <https://github.com/alinen/agl>, 2021

Normoyle, A. Computer Graphics Assignments (C++ and OpenGL), <https://github.com/BrynMawr-CS312-2021>

Normoyle, A. Introduction to Computer Science Assignments and Exercises (Java), <https://github.com/BrynMawr-CS113-S2021>

Teaching Experience

Bryn Mawr College, Assistant Professor

CS 312: Computer Graphics	Spring 2021
CS 113: Introduction to Computer Science	Spring 2021
CS 110: Introduction to Computing	Fall 2020

Swarthmore College, Visiting Assistant Professor

CS 21: Introduction to Computer Science	Spring 2020
CS 71: Software Engineering	Spring 2019
CS 21: Introduction to Computer Science	Fall 2018
CS 56: Computer Animation	Spring 2018, Fall 2019
CS 91: Computer Animation	Spring 2017

University of Pennsylvania, Co-Instructor

CIS 497: Senior capstone project	2014-2015
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University of Pennsylvania, Student Instructor

CIS 563: Physically-based Animation	Spring 2011
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University of Pennsylvania, Teaching Assistant

Winner of the University of Pennsylvania Teaching Practicum Award

CIS 563: Physically-based Animation	Spring 2010
CIS 660: Advanced Graphics	Spring 2010, 2011
CIS (EAS) 499: Senior Capstone Project	2010-2011

Academic Service

General

Career Services and Job Events, Swarthmore College Computer Science Department	2018-Current
Judge, SisterHacks, Bryn Mawr College	2018-2019

Academic Reviewing

ACM SIGGRAPH Conference in Motion, Interaction and Games (MIG)	2011-2018
Conference on Intelligent Virtual Agents (IVA)	2015-2021
AAAI Conference on Artificial Intelligence in Interactive Digital Entertainment (AIIDE)	2016-2021
ACM SIGGRAPH Symposium on Interactive 3D Graphics and Games (i3D)	2018-2021
ACM SIGGRAPH Tertiary Reviewer	2019

Book Reviewing

GPU Zen 2	2018
webGL Insights	2014