Timothy M. Shea

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EDUCATION

In Progress **Ph.D. Cognitive & Information Sciences**, University of California, Merced
Area: Computational Cognitive Neuroscience

2014 **B.S. Computer Science** (Magna cum Laude), California State University, Sacramento
Culminating Project: Wings - An Agent-Based Artificial Intelligence Toolkit for Game Developers

EXPERIENCE

2014 - Present **Computational Cognitive Modeling Research**, CCN Lab

- Collaborated with small teams of diverse skill sets to develop simulation tools using **java**, **C++**, and **matlab**
- Developed **visualization** and **statistical analysis** pipelines using **python**, **R**, and **matlab**
- Optimized computational experiments on **multithreaded**, **HPC cluster**, and **GPGPU** platforms
- Communicated technical results to broad audiences
- Key topics: **decision making**, **speech**, and **learning**.

2016 - Present **Behavioral Research in Virtual Reality,** Sensorimotor Neuroscience Lab

- With collaborators, designed a series of experiments using **HTC Vive** and **Oculus Rift** in **Unreal Engine 4**
- **Recruited**, **trained**, and **supervised** four research assistants
- Collected and analyzed multimodal behavioral data in python and R.
- Key topics: **sensorimotor foundations of language** and learning

2014 - Present **Teaching,** UC Merced

- Teaching Fellow: Developed a syllabus and course content, delivered 30 hours of lectures, **assessed progress**, created assignments and lab activities for **research methods** in cognitive science.
- Teaching Assistant: Assisted in six courses in **cognitive science**, led discussions and labs, met with students to **provide feedback** and **mentorship**.

2016 - 2017 **Graduate Research Assistant**, Emergence of Communication Lab

- Developed a **speech processing** pipeline for daylong naturalistic audio recordings of infants
- Trained **deep neural network** models on **unsupervised** and **prediction** tasks

2011 - 2014 **Information Systems Technician,** State Water Resources Control Board

- Developed and maintained database web applications using **SQL** and **PHP** to support environmental remediation

SKILLS

➔ C++, C#, Java, Python, D, GLSL/HLSL, HTML, CSS, Javascript, PHP, Matlab, SQL, R
➔ numpy, matplotlib, sklearn, lme4, jblas, JavaFx, TensorFlow, Keras, Robot Operating System, Gazebo
➔ Profiling (VS, Java Mission Control), Unit Testing (JUnit, GoogleTest, VS), Version Control (Hg, Git, Svn), Issue Tracking (Mantis)
➔ Visual Studio, Eclipse, IntelliJ IDEA, PyCharm, Spyder, Jupyter, Windows, Linux, AWS, VirtualBox VMs, MySQL, Unreal Engine
➔ Eyetracking (SMI Red), EEG (AntNeuro, Emotiv), Arduino, Phidgets, Roomba SCI, V1KU neuromorphic camera
➔ Automata, Expert Systems, Random Search, Planners, Genetic Algorithms, (Deep, Conv, Recurrent, Spiking) Neural Networks
➔ Design Patterns, SDLC, Project Management, Requirements Analysis, Technical Communication, Design Models, Documentation

AWARDS AND ACTIVITIES

Organized Brief Workshop on Group Communication (2017)

Taught Virtual Reality Research Workshop (2017)

Organized CogSci Coffee Co-Op (2017)

Attended Telluride Neuromorphic Cognition Workshop (2016)

Organized “An Evening of Free Will” Discussion Panel (2014)

California Space Grant Consortium Scholarship for Research (*March 2013*)

Chevron Computer Science Scholarship (*January 2013*)

Cereal Hack II Intel Grand Prize and People’s Choice Award (*HackerLab Sacramento, November 10, 2012*)

Marie Perino Business Scholarship (*2012*)