Markus **Eger**

Visiting Professor, Universidad de Costa Rica

100 S, 600 E de la bomba Sabanilla
Condominio Capannori, Apt 3C
San Pedro, Montes de Oca, San Jose, 11501
Costa Rica

(+506) 8585 4266 | markus.eger@gmail.com | www.slothlab.info | yawgmoth | Markus Eger

Research

- PhD in Computer Science from NC State University (graduated December 2018). Dissertation title: *Intentional Agents for Doxastic Games*
- Since January 2019: Visiting Professor at the University of Costa Rica
- Researching AI agents that communicate and collaborate with human players in games
- Currently working on a Unity component to make cooperative AI agents accessible to a wider range of developers
- Published 16 papers at various conferences and workshops related to game AI

Teaching

- Video Game Development, Summer 2018, Spring 2019 and Fall 2019: Undergraduate class providing a comprehensive overview of all stages of game development. Project-focused, where each student team develops their own game in Unity over the course of the semester.
- Artificial Intelligence for Digital Entertainment, Spring 2019: Graduate-level class discussing current research topics in AI for games and other forms of entertainment.
- AI Planning, Fall 2019: Graduate-level class providing an introduction into classical planning, one of the fundamental topics of classical AI research.
- Performance testing and experimentation, Fall 2019: Undergraduate class teaching the fundamentals of experimental design with a focus on IT infrastructure performance.

Smite

- Playing since Spring 2014, favorite game mode: Assault
- Over 100 gods mastered
- Least favorite aspect: Leavers/disconnects
- Favorite aspect (research-wise): VGS

Why Me?

As stated above, I am currently a visiting professor at the University of Costa Rica, researching human-AI collaboration and communication. My particular interests lie with agents that are able to recognize the human player's plan and augment it accordingly. For my dissertation I have mostly looked at games with an explicit communication component, such as Hanabi and One Night Ultimate Werewolf, but I have recently also been looking at games like Pandemic, where the AI agents have to determine the human player's plan implicitly from the actions they observe. In my current project, I am developing a component for Unity that generalizes this plan and intention recognition in order for it to be used in a variety of different games. I am also currently consulting for a Costa Rican game development company on an as-of-yet unannounced title to build cooperative AI agents. I believe there is a lot of untapped potential in games like Smite to create bots that not only follow a preset script, but intelligently recognize what their human team mates are currently trying to achieve, and perform actions that aid with that goal. Smite, in particular caught my interest because of the VGS system, which would allow human players to help guide the AI agent's behavior. Similarly, I believe that bots could also use the VGS system intelligently to communicate with the human players. While my work has focused on turn-based games, mostly adaptations of board games, the underlying communicative and planning-aspects are very similar, and I would be excited to be able to apply them to Smite and/or Paladins.