

## Corey Novich

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### Relevant UPenn Coursework

#### Computer Science

- Intro. to Algorithms
- Programming Languages and Techniques I & II
- Automata, Computability, and Complexity
- Intro. to Computer Systems
- Independent Study: Web Technologies

#### Game Design & Game Programming

- Independent Study: Reinforcement Learning AI
- Senior Project: Fencing Game Research, Design, & AI
- Game Design Practicum
- Game Design and Development
- Video Games and Virtual Worlds as Sites for Learning (Education)

#### Computer Graphics & Graphics Programming

- Computer Graphics I&II
- Computer Animation
- Physically Based Animation
- Advanced Topics in Computer Graphics and Animation
- 3D Computer Modeling

#### Math & Technical Electives

- Calculus I, II, III, Linear Algebra
- Design of Mechatronic Systems
- Smart Objects for Play and Learning

#### Programming Languages

- C++ • C# • C • Java • Python
- HTML • CSS • Javascript, three.js

#### Programs

- Unity • Visual Studio • Perforce
- Git • Unreal 4 • Team City
- Maya • Mudbox • Motionbuilder
- Adobe Creative Suite

#### Extracurricular Interests

- SIGGRAPH Board Member, UPenn chapter
- Penn-Play Game Jam 2014, Women in Games Showcase
- Girls & Games photo book
- UPenn Varsity Fencing Team
- Proficient in Spanish

## WORK EXPERIENCE

### Harmonix Music Systems

*Gameplay Software Engineer, July 2016 - Present*

- **Rock Band 4, Rivals Expansion [PS4, XB1]**  
Synchronous Online Multiplayer, Missions & Seasons. (C++, HMX engine)  
Bridged code & communication gaps between art, design, & tech
- **Super Beat Sports [Nintendo Switch]**  
Networked multiplayer & character customization. (C++, HMX engine)
- Prototype Team (C#, Unity, Android & PC)
- Unreal training (Unreal Engine 4)

### UPenn Computational Memory Lab, Columbia University Memory and Navigation Lab

*Computer Graphics & Gameplay Programmer, November 2014 - July 2016*

- Developed a Unity3D experiment framework for spatial navigation games.
- Building spatial navigation games with Oculus Rift and EEG hardware (Darpa funded). Collected EEG data is analyzed to study spatial memory in specialized brain cells. Developed solo. (C#, C++, Unity)

### Sony Computer Entertainment America Playstation, San Mateo, CA

*Product Development Intern, Summer 2014*

- Programming & gameplay on an R&D project to determine 4K resolution viability for games, team of 4. Sponsored by **Sony and World Wide Studios**.
- Responsibilities: procedural text generation, behavioral animation algorithms, integrating assets from in-house art department, gameplay programming for various experiments. (C#, Unity)

### CIS 568: Game Design Practicum Teaching Assistant

*Fall 2014*

- Assisted in game design feedback and critique, ran playtest sessions.

### Fat Pebble Ltd. Games, Brighton, England

*Game Design & Development Intern, Summer 2013*

- **Clay Jam** on [Leap Motion] - Gameplay control improvements.
- Prototypes (Unity, C#), analysis of 'free-to-play' games.

### SIG Center for Human Modeling and Simulation, UPenn

*Lab Assistant, Spring 2012 - 2014 • Research Intern, Summer 2012*

- Crowd simulation paper contributions (C#, Unity, Maya, Photoshop), motion capture & cleaning (Vicon Nexus).
- Redesign & construction of a Middle Eastern Marketplace for crowd simulations (Maya & Unity).

## OTHER SELECTED PROJECTS

- Threshold: Puzzle platformer, Global Game Jam 2014, team of 7 (C#, Unity)
- Raytracer, Volumetric Renderer, Mini-Maya (C++, Visual Studio)
- Robot Hockey Tournament, team of 4 (C, M2 Microcontroller, MRF wireless)
- Music Cubes, team of 3 (Arduino, personally responsible for circuitry & code)
- Gendered Toys: data visualization (C#, Unity)

## EDUCATION

**University of Pennsylvania, School of Engineering & Applied Science**

- **MSE Computer Graphics & Game Technology**, Class of 2015 (GPA 3.81)
- **BSE Digital Media Design**, Class of 2014 (GPA 3.51)

**Rhode Island School of Design, Certificate in Photography**, August 2009

*References available upon request!*