

SANJAY MADHAV

WORK EXPERIENCE

Loophole Games LLC

President and Principal Engineer (2020 – Present)

- Founding member of the company
- Assist clients with various technical needs such as port work, performance profiling, and custom gameplay features

University of Southern California

Senior Lecturer (2015 – Present)

Lecturer (2012 – 2015)

Part-Time Lecturer (2008 – 2012)

- Design curriculum for and teach several courses including Video Game Programming, Programming Game Engines, Professional C++, and Compilers
- Created multiple game code frameworks in C++ (features include rendering, math libraries, game object model, skeletal animation, collisions, and pathfinding)
- Mentor several junior faculty members on curriculum development, effective teaching methods, and career advancement
- Designed, launched, and grew a Minor in Computer Programming
- Awarded 2016 Dean's Award for Innovation in Teaching and Education, given annually to a single faculty member in the USC School of Engineering

Pandemic Studios

Gameplay Programmer (2007 – 2009)

- Integrated the Wwise sound library into our engine, gameplay code, and level editor, and supported sound designers throughout the entire development cycle
- Implemented and maintained gameplay features such as weapons and enemies
- Designed and implemented an AI dialogue chatter system
- Analyzed and fixed performance bottlenecks, especially related to sound systems, working closely with engine programmers

Credits:

- *The Saboteur*, 2009.
- *Lord of the Rings: Conquest*, 2008.

Spark Unlimited

Engineer (2006 – 2007)

- Worked closely with designers to implement player gameplay features (such as weapons) as well as features specific to certain levels (such as special enemy types)
- Implemented features for several systems including UI, multiplayer, achievements, animation, rendering, and Bink movie playback (in Unreal Engine)

Credits:

- *Turning Point: Fall of Liberty*, 2008.

Neversoft

Programmer (2005 – 2006)

- Took ownership of and extended UI systems on two Tony Hawk games
- Implemented new features for gameplay systems such as character customization and skateboard trick scoring

Credits:

- *Tony Hawk's Project 8*, 2006.
- *Gun*, 2005.
- *Tony Hawk's American Wasteland*, 2005.

Electronic Arts

Engineering Intern (June – October 2004)

Credits:

- *Medal of Honor: Pacific Assault*, 2004.

EDUCATION

Candidate for Ph.D. in Computer Science (2016-2018, incomplete).

University of Southern California

M.S. in Computer Science, 2016.

University of Southern California

B.S. in Computer Science, 2004.

University of Southern California

PUBLICATIONS

Madhav, Sanjay. *Game Programming in C++*. Boston: Addison-Wesley, 2018. Print. 500 pages. (Textbook).

Glazer, Joshua and Sanjay Madhav. *Multiplayer Game Programming*. San Francisco: Addison-Wesley, 2015. Print. 365 pages. (Textbook).

Madhav, Sanjay. *Game Programming Algorithms and Techniques*. San Francisco: Addison-Wesley, 2013. Print. 329 pages. (Textbook).

TECHNICAL SKILLS

Languages: C/C++, Python, C#, assembly

Development Environments: Visual Studio and Xcode

Mathematics: Linear algebra, trigonometry, and some calculus

Libraries: DirectX 9/10/11, OpenGL 3.1+, FMOD, LLVM, Wwise, XNA

Level Editors: Unreal 3/4 and various proprietary tools