

# JOHN CHOI = GAME DEVELOPER @ SCHELL GAMES & PROFESSOR OF PRACTICE @ CARNEGIE MELLON

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LINKEDIN: [linkedin.com/in/johnchoi313](https://www.linkedin.com/in/johnchoi313) | GITHUB: [github.com/johnchoi313](https://github.com/johnchoi313)

PORTFOLIO:  
[johnchoi313.com](https://johnchoi313.com)



## EDUCATION

Carnegie Mellon University

MBA Business Administration

- Part-Time Grad 2027, QPA 3.67

BCSA Computer Science & Arts

- Graduated May 2017, QPA 3.36
- BXA Student Graduation Speaker
- Senior Leadership Recognition
- Dean's List Fall 2015, Fall 2016
- NSF I-Corps Site Participant
- CIE Innovation Scholar

## SKILLS

Languages & SDKs:

- Python, C, C#, SML, MATLAB
- HTML/CSS/JS/TS/ThreeJS/WebXR
- ROS, OpenCV, Isaac Sim, Tensorflow
- Unity-ROS/Perception/MLAgents

Platforms:

- Windows, Mac OSX, Linux, AR/VR/XR

Software:

- Unity, Unreal, Blender, Maya
- Github, Perforce, SVN, UVCS
- TouchDesigner, HeavyM, MadMapper
- Rhino3D, Photoshop, Premiere,
- Arduino, EAGLE, Raspberry Pi

Manufacturing:

- 3D Printing, Laser Cutting, RTV Molding
- Sheet Metal Enclosure Design,
- CNC Routing, PCB Design

## GRANTS & ACCOLADES (UGRAD)

ProSEED Internal Seed Grant

- Award Winner 2017, 2018

Henry Armero Memorial Award

- Award Winner 2016, 2017

Frank-Ratchye Art @ Frontier Fund

- Grant Recipient 2014, 2015, 2016

Small Undergraduate Research Grant

- Type I 2015, Crosswalk 2016

## REFERENCES

Anthony Rowe [agr@andrew.cmu.edu](mailto:agr@andrew.cmu.edu)

- Research Professor @ CMU ECE

Justine Cassell [justine.cassell@inria.fr](mailto:justine.cassell@inria.fr)

- Senior Researcher @ INRIA Paris

Shernell Smith [mssmith@andrew.cmu.edu](mailto:mssmith@andrew.cmu.edu)

- Executive Director @ CMU CSDI

John Balash [jbalash@andrew.cmu.edu](mailto:jbalash@andrew.cmu.edu)

- Director of Outreach @ CMU ETC

Yoichi Matsuyama [yoichim@equ.ai](mailto:yoichim@equ.ai)

- CEO @ Equmenopolis, Inc.

Golan Levin [golan@flong.com](mailto:golan@flong.com)

- Art Professor @ CMU School of Art

Brian Kaleida [bkaleida@simcoachgames.com](mailto:bkaleida@simcoachgames.com)

- CEO @ Simcoach Games

## EXPERIENCE

AR/VR/XR Game Engineer, April 2025 to Present

*Schell Games, Pittsburgh, PA*

- Mixed reality research and development projects under NDA for high-profile clients

Adjunct Professor of Practice, January 2025 to Present

*School of Design @ Carnegie Mellon, Pittsburgh, PA*

- Teaching rapid prototyping based on real-life creative industry best practices.
- Immersive digital media environments with Unity, Blender, Rhino, and Arduino

ECE Research Engineer, March 2022 to April 2024

*WISELab @ Carnegie Mellon Dept. of Electrical and Computer Engineering, Pittsburgh, PA*

- Developing hybrid online AR/VR/XR experiences and interfaces for IoT Digital Twins

Lead Graphics Engineer, July 2020 to January 2024

*Equmenopolis Inc., Tokyo, Japan*

- IntelLLA: Creating pipelines to generate photorealistic humanoid avatars for AI tutors
- BLENDi: Augmented Reality Museum Guide and Navigator on HoloLens 2

Lead Instructor, Summer 2021 | 2022 | 2023 | 2024

*Simcoach Games Summer Apprenticeship Program, Pittsburgh, PA*

- Transformed 160+ high schoolers into 80+ genius game developers in 6 weeks.

Technical Artist, March 2017 to February 2019

*ArticuLab @ Carnegie Mellon Language Technologies Institute, Pittsburgh, PA*

- SARA/SCIPR/RAPT: Upgraded virtual agent graphics from PS2 to PS4 quality

Game Development Adjunct Professor, Summer 2017 | 2018 | 2019 | 2021 | 2023 | 2024

*Center for Student Diversity and Inclusion @ Carnegie Mellon, Pittsburgh, PA*

- Transformed 40+ high schoolers into 40+ genius game developers in 6 weeks.

Software Development Consultant, Summer 2017 to 2025

*Entertainment Technology Center @ Carnegie Mellon University, Pittsburgh, PA*

- Realized and deployed 10+ experimental educational technology prototypes

Founder and CEO, May 2016 to present

*Choitek LLC, Pittsburgh, PA*

- Profitably owned and operated a freelance consulting and contracting business

Undergraduate Entrepreneur, May 2016 to May 2017

*Project Olympus @ Carnegie Mellon Tepper School of Business, Pittsburgh, PA*

- Built a startup company to teach and inspire students with robotics

Robotics Research Assistant, January 2016 to May 2016

*Frank-Ratchye STUDIO for Creative Inquiry, Pittsburgh, PA*

- Designed 15 modular 3D-printable end effectors for UR5 industrial robot arm

CNC Router Monitor, January 2016 to May 2016

*ArtFab @ Carnegie Mellon School of Art, Pittsburgh, PA*

- Operated industrial CNC machines for student and faculty art projects

Software Engineer Intern, May 2015 to August 2015

*TerraSim Inc., Pittsburgh, PA*

- Refactored entire rendering codebase and improved rendering speed 2000%

HCI Research Assistant, May 2014 to August 2014

*Human Computer Interaction Institute @ Carnegie Mellon University, Pittsburgh, PA*

- Developed 8 educational minigames in ActionScript for use in HCI research

## VOLUNTEER WORK

### General Secretary & CTO, July 2020 to Present

*Peerbots, Pittsburgh, PA*

- Managed grants to build software for supporting neurodiversity

### Cobot Challenge Technology Consultant, May 2019 to May 2023

*Southwestern Pennsylvania BotsIQ, Pittsburgh, PA*

- Developed educational cobot simulation and control software

### Software Engineer, November 2018 to July 2020

*Fine Art Miracles, Pittsburgh, PA*

- Crafted an awesome social robot face and controller for art therapy

### AI Instructor, October 2016 to December 2019

*Leonard Gelfand Center @ Carnegie Mellon University, Pittsburgh, PA*

- Awarded Gelfand Service Award for outstanding community service

### CyRoHa Mentor, December 2016 to May 2017

*Project Ignite @ Carnegie Mellon University, Pittsburgh, PA*

- Mentored 4 high schoolers on how to build a cybernetic robot hand

### Fab Lab Volunteer, October 2016 to May 2017

*Carnegie Science Center, Pittsburgh, PA*

- Taught K-12 students how to use 3D printers and laser cutters

### Vice President, January 2014 to May 2017

*Robotics Club @ Carnegie Mellon University, Pittsburgh, PA*

- Taught 100+ students how to build and program robots

### Director of Development, December 2014 to January 2015

*Game Creation Society @ Carnegie Mellon University, Pittsburgh, PA*

- Taught 100+ students how to build video games

### Digital Evolutions, August 2009 to May 2013

*Smoky Hill High School, Aurora, CO*

- Taught 50+ students how to use Maya, Photoshop and Unity

## PROJECTS (UGRAD)

### Hardware:

- ASPIR V1/V2 (2018): Autonomous Support and Positive Inspiration Robot.
- Big Friendly Robot Dog (2018): 2.5ft quadruped robot physics simulator.
- MMM MkI (2015): An human-size advanced educational robotics platform.
- HERB Puppet (2015): Electronic puppet to control a Barrett Robot Arm.
- VRTD (2015): Virtual Reality Teleconferencing Device for the home.
- Crab Simulator (2014): A 3D-printed robot crab that controls a video game.
- Halley (2014): A 2.6-ft humanoid robot for use in animation research.
- OwlBot (2014): A 3D-printed, robotic toy owl prototype for Arduino.
- Kinemech (2013): A cute robot that tracks and imitates the human body.

### Software:

- Project Codetta (2015): A virtual reality RPG game for Android.
- SMART (2015): Some Mobile Augmented Reality Thing.
- Myo Painting (2015): Funny painting simulator using Myo armbands.
- Team BitBot (2014): A 2.5D side-scrolling cooperative platformer game.
- WorldBuilder (2014): A Kinect and speech controlled colony creator.
- Monster Shroud (2013): A Kinect and Wiimote controlled FPS game.
- Life in a Box (2013): An automatic 3D maze museum gallery generator.

*(And more in portfolio website! Check it out here: [johnchoi313.com](http://johnchoi313.com))*

## RELEVANT COURSEWORK (UGRAD)

### Computer Science:

- Robot Parody Movies (15-591)
- Special Topic: Practical AI (15-491)
- Theoretical Ideas in CS (15-251)
- Intro to Computer Systems (15-213)
- Functional Programming (15-150)
- Imperative Programming (15-122)
- Intro to Programming (15-112)

### Entrepreneurship:

- Entrepreneurial Leadership (99-735)
- Intro to Entrepreneurship (70-415)

### Robotics:

- Human Robot Interaction (16-467)
- Mobile Robot Programming (16-362)
- Machine Shop & Metrology (99-354)

### Art:

- Art Independent Study (60-499)
- Urban Intervention (60-441)
- Experimental Game Design (60-419)
- Computational Art & Design (60-412)
- Electronic Media Studio II (60-210)
- Electronic Media Studio I (60-110)

## EXHIBITIONS

Guest Visitor, March 23-26, 2023

Penny Arcade Expo PAX East 2022, Boston, MA

Equemenopolis AI Exhibitor, March 5-10, 2022

South by Southwest SXSWEdu, Austin, TX

Discovery Day Company Exhibitor, November 16, 2022

Pittsburgh Robotics Network, Pittsburgh, PA

Entrepreneurship Bootcamp Speaker, Sept 8, 2018

Tepper School of Business @ CMU, Pittsburgh, PA

Game Creation Professional Development, Dec 18, 2017

Allegheny Intermediate Unit 3, Pittsburgh, PA

Guest Speaker, May 12 | July 28 | August 4, 2016

Assemble PGH, Pittsburgh, PA

Project Presenter, October 10-11, 2015

National Maker Faire 2015, Washington, DC

Top Ten Project Presenter, June 9, 2016

CREATE Festival 2016, Pittsburgh, PA

Guest Company Exhibitor, April 2015 | 2016 | 2018

Southwestern Pennsylvania BotsIQ, California, PA

Project Presenter, October 10-11, 2015

Maker Faire Pittsburgh 2015, Pittsburgh, PA

## MORE INFO ABOUT PARTNERS

Simcoach: [schellgames.com](http://schellgames.com)

Simcoach: [simcoachapprenticeship.com](http://simcoachapprenticeship.com)

ArticuLab: [articulab.hcii.cs.cmu.edu](http://articulab.hcii.cs.cmu.edu)

ETC ARCADE: [etcarcade.com](http://etcarcade.com)

WiseLab: [wise.ece.cmu.edu](http://wise.ece.cmu.edu)

Peerbots: [peerbots.org](http://peerbots.org)

ArenaXR: [arenaxr.org](http://arenaxr.org)

Equemenopolis: [equ.ai](http://equ.ai)