JOHN CHOI = FOUNDER AND CEO OF CHOITEK & RESEARCH ENGINEER @ CMU

EMAIL: johnchoi@choitek.com | johnchoi@andrew.cmu.edu | PHONE: (412) 444-8018
LINKEDIN: linkedin.com/in/johnchoi313 | GITHUB: github.com/johnchoi313

PORTFOLIO:
johnchoi313.com

EDUCATION
Carnegie Mellon University
BCSA Computer Science & Arts
Graduated May 2017 with QPA 3.36
 · BXA Student Graduation Speaker
 · Dean's List Fall 2015, Fall 2016
 · Senior Leadership Recognition
 · NSF I-Corps Site Participant
 · CIE Innovation Scholar

SKILLS
Languages:
 · Python, C, C#, C++, SML, MATLAB
 · Java, JavaScript, ActionScript
Platforms:
 · Windows, Mac OSX, Linux, AR/VR/XR
Software:
 · Unity, Unreal, Blender, Maya,
 · Rhino3D, Photoshop, Premiere,
 · Arduino, EAGLE, Raspberry Pi
Manufacturing:
 · 3D printing, Laser Cutting,
 · CNC Routing, PCB Design

GRANTS & FUNDING
ProSEED Internal Seed Grant
 · Award Winner 2017, 2018
Henry Armero Memorial Award
 · Award Winner 2016, 2017
Project Olympus PROBE
 · Innovation Scholars Grant 2016
Frank-Ratchye Art @ Frontier Fund
 · Grant Recipient 2014, 2015, 2016
Small Undergraduate Research Grant
 · Type I 2015, Crosswalk 2016

ACCOLADES
Hackathons
 · Global AI XPRIZE Round 2, 2017
 · 3rd, Archiact VR Game Jam 2015
 · Google Prize, GlobalGameJam 2015
 · Microsoft Prize, HackCMU 2014
 · Grand, 15-112 Fall 2013
 · Grand, RoboClub Hackathon 2013
 · 1st, SkillsUSA-CO Animation 2013
Instructables Contests
 · Grand, Sensors (Dexter Industries)
 · 2nd, Mind for Design (HP Sprout)
 · 2nd, Coded Creations (Microsoft)
 · 2nd, Phone Contest (SeedStudio)
Scholastic Art & Writing
 · National Silver Medal 2013
Random But Totally Legit, Look It Up
 · TIME's 2006 "Person of the Year"

EXPERIENCE

ECE Research Engineer, March 2022 to present
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 present
Equmenopolis Inc., Tokyo, Japan
 ○ InteLLA: Creating pipelines to generate photorealistic humanoid avatars for AI tutors
 ○ BLENDi: Augmented Reality Museum Guide and Navigator on HoloLens 2

Project Manager, Summer 2021 | 2022
Simcoach Games Summer Apprenticeship Program, Pittsburgh, PA
 ○ Transformed 80+ 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
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 present
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 present
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%

HCII 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

REFERENCES
 · Anthony Rowe, Siewiorek and Walker Family Professor @ CMU ECE | agr@andrew.cmu.edu
 · John Balash, Director of Educational Engagement @ CMU ETC | jbalash@andrew.cmu.edu
 · Yoichi Matsuyama, CEO of Equ.ai & Professor at Waseda University | yoichim@equ.ai
 · Golan Levin, Professor of New Media @ CMU School of Art | golan@flong.com
 · Brian Kaleida, CEO of Simcoach Games | bkaleida@simcoachgames.com
 · Kit Needham, Associate Director of Project Olympus | kit@cs.cmu.edu

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 Present
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

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)

RELEVANT COURSEWORK

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

Equmenopolis AI Exhibitor, March 5-10, 2022
South by Southwest SXSW Edu, 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: simcoachapprenticeship.com
ArticuLab: articulab.hcii.cs.cmu.edu
ETC ARCADE: etcarcade.com
WiseLab: wise.ece.cmu.edu
Peerbots: peerbots.org
ArenaXR: arenaxr.org
Equmenopolis: equ.ai