

John Choi "An artist, engineer, and entrepreneur all in one."

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EDUCATION

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

SKILLS

Languages:

Python, C, C#, SML, MATLAB
Java, JavaScript, ActionScript

Platforms:

Windows, Mac OSX, Linux

Software:

Unity, Maya, Rhino3D, Photoshop,
Premiere, Arduino, EAGLE

Manufacturing:

3D printing, Laser Cutting
CNC Routing, PCB Design

GRANTS

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

TIME's 2006 "Person of the Year"

EXPERIENCE

Technical Artist, *March 2017 to February 2019*

Articulab @ Carnegie Mellon Language Technologies Institute, Pittsburgh, PA

- SARA: Advanced humanoid controller in half the time and double the quality
- SCIPR: Super-expressive motion capture system with Kinect computer vision
- RAPT: Upgraded virtual agent graphics from PS2 to PS4 quality in 2 days

Entertainment Technology Project Leader, *Summer 2017 | 2018*

Carnegie Mellon Entertainment Technology Center, Pittsburgh, PA

- Transformed 20 high-schoolers into 20 genius game developers in 6 weeks.
- Networked smartwatch multiplayer teaching tool for special needs education

Undergraduate Entrepreneur, *May 2016 to present*

Carnegie Mellon Project Olympus, 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 3D-printable end effectors for UR5 robot arm

CNC Router Monitor, *January 2016 to May 2016*

Carnegie Mellon School of Art, Pittsburgh, PA

- Operated industrial CNC machine for student and faculty art projects

Software Engineer Intern, *May 2015 to August 2015*

TerraSim, Pittsburgh, PA

- Improved 2D rendering speed up to 2000% using VBOs and other optimizations
- Refactored 2D rendering code from 5000 to 3000 lines to improve maintainability

HCI Research Assistant, *May 2014 to August 2014*

Carnegie Mellon Human Computer Interaction Institute, Pittsburgh, PA

- Developed 8 educational minigames for use in HCI research

SERVICE WORK

AI Instructor, *October 2016 to Present*

Leonard Gelfand Center, Pittsburgh, PA

- Awarded Gelfand Student Service Award for outstanding community service

Software Engineer, *November 2018 to Present*

Fine Art Miracles, Pittsburgh, PA

- Made an awesome robot face and controller for special needs kids

CyRoHa Mentor, *December 2016 to May 2017*

Carnegie Mellon Project Ignite, Pittsburgh, PA

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

Fab Lab Volunteer, *October 2016 to May 2017*

Carnegie Science Center, Pittsburgh, PA

- Taught how to use 3D printers, Laser Cutters, and CNC Routers

Vice President, *January 2014 to May 2017*

Carnegie Mellon Robotics Club, Pittsburgh, PA

- Taught 100+ students how to build and program robots

Director of Development, *December 2014 to January 2015*

Carnegie Mellon Game Creation Society, Pittsburgh, PA

- Taught 50+ 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 Autodesk Maya, Photoshop and Unity3D

REFERENCES

Yoichi Matsuyama, *Associate Research Professor at Waseda University*

◦ matsuyama.yoichi@gmail.com

Golan Levin, *Director of the STUDIO for Creative Inquiry*

◦ golan@andrew.cmu.edu

Kit Needham, *Associate Director of Project Olympus*

◦ kit@cs.cmu.edu

EXHIBITIONS

Entrepreneurship Bootcamp Speaker, *September 8, 2018*

Carnegie Mellon Tepper School of Business, Pittsburgh, PA

- Taught 200+ attendees how business is war and how startups are frogs

Game Dev Crash Course Presenter, *December 18, 2017*

Allegheny Intermediate Unit 3, Pittsburgh, PA

- Taught 11 high school teachers how to make a Space Invaders clone in 3 hours

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

Assemble PGH, Pittsburgh, PA

- Inspired grade schoolers with an advanced educational robot

Project Presenter, *October 10-11 2015*

National Maker Faire 2015, Washington, DC

- Showcased a human-size helper robot to Washington's Maker Community

Top Ten Project Presenter, *June 9 2016*

CREATE Festival 2016, Pittsburgh, PA

- Showcased a human-size helper robot to Pittsburgh's industry leaders

Guest Exhibitor, *April 8-9 2015*

Southwestern Pennsylvania BotsIQ 2016, California, PA

- Entertained high school students with a lightsaber dueling robot

Project Presenter, *October 10-11 2015*

Maker Faire Pittsburgh 2015, Pittsburgh, PA

- Showcased an animatronic robot student to Pittsburgh's Maker community

PERSONAL PROJECTS

- Big Friendly Robot Dog (2018): 2.5ft quadrupedal robot dog and physics simulator.
- HERB Puppet (2015): Electronic puppet to control a Barrett WAM 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.
- WorldBuilder (2014): A Kinect and speech controlled colony creator.
- Life in a Box (2013): An automatic 3D maze museum gallery generator.
- Cory (2013): A cute robot head that sings "Let It Go" with a smartphone face.
- Kinemech (2013): A cute robot that tracks and imitates the human body.

TEAM PROJECTS

- ASPIR V1/V2 (2018): Autonomous Support and Positive Inspiration Robot.
- Choitek (2016): A startup company making advanced robotics for everyone.
- MMM MkI (2015): An human-size advanced educational robotics platform.
- 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.
- Monster Shroud (2013): A Kinect and Wiimote controlled FPS game.
- Illuminate (2013): A Wiimote-controlled flashlight explorer game.

(Managed development and led team as Project Leader on all Team Projects.)

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)