

# Kiwon Yun

Cell#: 631-687-9677 | kiwon.kyun@gmail.com | <http://www.cs.stonybrook.edu/~kyun>

## Summary

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Seeking a full-time position. Strong background in computer vision, AI/ML, data analysis, and digital media. Good at solving a computational problem, writing clean code, rapid troubleshooting, and problem prevention.

## Work Experience

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### Research Assistant

Aug 2011 - May 2017

Computer Vision Lab, Stony Brook, NY

- I involved various research projects related to computer vision and machine learning especially for the integration of human and computer for image and video understanding.
- Developed a computation model to understand image and video with human visual attention and natural language. The model detects object and activity of the content and predicts the future gaze patterns. (C++)
- Developed a video streaming service using the user's real-time gaze feedback. The application provides the better quality of the video over the Internet even in slow network service. (Python)
- Developed a real-time human activity detection system in video and motion capture systems. The model detects activity such as greeting, fighting, exchanging an object between multiple people. (C++)

### Research Intern

Summer 2013

Motorola Solutions, Inc., Holtsville, NY

- Worked in the advanced product R&D team that was developing an inventory management system, which uses sensors and AI to track products and customers in stores. My responsibilities included developing real-time human activity detection with video surveillance integrating the product tracking system. (C++)

### Senior Software Engineer

Dec 2004 - Jul 2006

Naver (the nation's top search & online game portal company), Gyeonggi, Korea

- Worked on developing a network board game "Go" with over 50,000 users (C++)
- Developed the game logic, UI, and designed broadcasting & streaming live video system
- Developed the home-entertainment version (in collaboration with *Intel*)

### Software Engineer

May 2003 - Nov 2004

Ansys Technologies (the educational software development company), Gyeonggi, Korea

- Developed UI, update patches, and distribution system for network 2D RPG game "Enaquest" (C++)

## Education

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### Stony Brook University

Stony Brook, NY

Ph.D. and M.S. Computer Science

Dec 2018

### Yonsei University

Seoul, Korea

B.S. Computer Science and Industrial System Engineering, (GPA: 3.7/4.0)

Feb 2009

## Technical Skills

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Expertise in C++, Python, Java, Matlab

Other skills: C#, iOS programming, HTML/CSS, Ruby on Rails, PHP, SQL, Tensorflow, Raspberry Pi

## Publications

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- Jihoon Ryoo, **Kiwon Yun**, Dimitris Samaras, Samir Das, and Greg Zelinsky, "*Design and Evaluation of a Foveated Video Streaming Service for Commodity Client Devices*", ACM Multimedia Systems (MMSys) 2016
- **Kiwon Yun**, Gary L. Ge, Dimitris Samaras, and Gregory J. Zelinsky, "*How We Look Tells Us What We Do: Action Recognition Using Human Gaze*", Visual Science Society (VSS) 2015
- **Kiwon Yun**, Yifan Peng, Dimitris Samaras, Gregory Zelinsky, Tamara L. Berg, "*Studying Relationships Between Human Gaze, Description, and Computer Vision*", Computer Vision and Pattern Recognition (CVPR) 2013
- **Kiwon Yun**, Jean Honorio, Debaleena Chattopadhyay, Tamara L. Berg, and Dimitris Samaras, "*Two-person Interaction Detection Using Body-Pose Features and Multiple Instance Learning*", Workshop on Human Activity Understanding from 3D Data at Conference on Computer Vision and Pattern Recognition (CVPR) 2012

## Selected Projects

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### Mobile Application Development

Photo food journal iPhone app, "Footo", Objective-C

- Developed an easy-to-use daily food logger for your healthy eating by uploading photo, counting calories. 2015

### Game Development

Network flash game "Fresh Racing", C++ and Flash, Network game

- **Gold award (1st place)** out of +100 software engineers at the game developer contest in Naver. 2006

2D arcade game "PumFish Battle", C++, PC game

- **Silver award (2nd place)** out of +250 participants at the game developer contest held by Ministry of Information and Communication in Korea. 2004

2D shooting game "SnowWhite", C++, PC game

- Publicly released the package and sold +200 copies in a day. 2005-2006

## Extra Curricular Activities

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### Mentoring

- Supervised high school students for the *Intel Science Talent Search Competition 2013* and *Siemens Competition in Math, Science and Technology 2014*, and made two students to the **semi-final round** with the research subject, integrating computer vision and human gaze for image understanding

## Teaching Experience

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- 3+ years experience with a variety of age groups from primary school through to university level.
- Teacher and Program Director, Paran Science Academy, NJ.

I am currently teaching Coding, Algorithms, and Competitive Programming for talented youth from Grades 6 to 12, and designed after-school coding programs, newly opened 10+ courses and teaching 50+ students.