Mark **Edmonds**

ARTIFICAL INTELLIGENCE RESEARCHER · ROBOTICS RESEARCHER

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Education

University of Los Angeles, California	*Los Angeles, California*
Ph.D. in Computer Science, Artifical Intelligence Concentration; Advisor: Prof. Song-Chun Zhu	*September 2017 - Present*
University of Los Angeles, California	*Los Angeles, California*
M.S. in Computer Science; Thesis Advisor: Prof. Song-Chun Zhu	*September 2015 - June 2017*
University of Dayton	*Dayton, Ohio*
B.S. in Computer Engineering; Thesis Advisor: Prof. Tarek Taha	*August 2011 - May 2015*

Research Interests

Causality	Causal model induction through simulation and exploration
Reinforcement Learning	Transfer learning and domain adaptation
Robotics	Learning from demonstration and transfer learning

Publications

1. **M. Edmonds***, F. Gao*, X. Xie, H. Liu, S. Qi, Y. Zhu, B. Rothrock, & S.C. Zhu   *IROS 2017*
   Feeling the Force: Integrating Force and Pose for Fluent Discovery through Imitation Learning to Open Medicine Bottles

Research

R.O.K Cyber Command, MND   *Seoul, S.Korea*
Software Engineer & Security Researcher (Compulsory Military Service)   *Aug. 2014 - Exp. Apr. 2016*
- Implemented a military cooperation system which is web based real time messenger in Scala on Lift.
- Improved functionality on military command and control system for incident response with Java Servlet.
- Lead engineer on agent-less backtracking system that can discover client device's fingerprint(including public and private IP) independently of the Proxy, VPN and NAT.

NEXON   *LA, U.S.A*
Game Developer Intern at Global Internship Program   *Jan. 2013 - Feb. 2013*
- Developed in Cocos2d-x an action puzzle game(Dragon Buster) targeting U.S. market. Implemented API server which is communicating with game client and In-App Store, along with two other team members who wrote the game logic, designed game graphics.
- Won the 2nd prize in final evaluation.

Undergraduate Research, Computer Vision Lab(Prof. Bohyung Han)   *Pohang, S.Korea*
Researcher for <Detecting video's torrents using image similarity algorithms>   *Sep. 2012 - Feb. 2013*
- Researched means of retrieving a corresponding video based on image contents using image similarity algorithm.
- Implemented prototype that users can obtain torrent magnet links of corresponding video relevant to an image on web site.

Software Maestro (funded by Korea Ministry of Knowledge and Economy)   *Seoul, S.Korea*
Software Engineer Trainee   *Jul. 2012 - Jun. 2013*
- Performed research memory management strategies of OS and implemented in Python an interactive simulator for Linux kernel memory management.

ShitOne Corp. (Start-up company)   *Seoul, S.Korea*
Software Engineer   *Dec. 2011 - Feb. 2012*
- Developed a proxy drive smartphone application which connects proxy driver and customer. Implemented overall Android application logic and wrote API server for community service, along with lead engineer who designed bidding protocol on raw socket and implemented API server for bidding.

SAMSUNG Electronics

Freelance Penetration Tester

- Conducted penetration testing on SAMSUNG KNOX, which is solution for enterprise mobile security.
- Conducted penetration testing on SAMSUNG Smart TV.

Experience

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Skills

Programming	Python, C/C++, Scala, JAVA, Node.JS, OCaml, LaTeX
Web	Django with Python, Express with Node.JS, HTML5, LESS
Languages	Korean, English, Japanese, Chinese

Extracurricular Activity

B10S (B1t 0n the Security, Underground hacker team)
S.Korea

Core Member
Nov. 2011 - PRESENT

- Gained expertise in penetration testing areas, especially targeted on web application and software.
- Participated on a lot of hacking competition and won a good award.
- Held several hacking competitions non-profit, just for fun.

WiseGuys (Hacking & Security research group)
S.Korea

Member
Jun. 2012 - PRESENT

- Gained expertise in hardware hacking areas from penetration testing on several devices including wireless router, smartphone, CCTV and set-top box.
- Trained wannabe hacker about hacking technique from basic to advanced and ethics for white hackers by hosting annual Hacking Camp.

PoApper (Developers' Network of POSTECH)
Pohang, S.Korea

Core Member & President at 2013
Jun. 2010 - PRESENT

- Reformed the society focusing on software engineering and building network on and off campus.
- Proposed various marketing and network activities to raise awareness.

PLUS (Laboratory for UNIX Security in POSTECH)
Pohang, S.Korea

Member
Sep. 2010 - Oct. 2011

- Gained expertise in hacking & security areas, especially about internal of operating system based on UNIX and several exploit techniques.
- Participated on several hacking competition and won a good award.
- Conducted periodic security checks on overall IT system as a member of POSTECH CERT.
- Conducted penetration testing commissioned by national agency and corporation.

MSSA (Management Strategy Club of POSTECH)
Pohang, S.Korea

Member
Sep. 2013 - PRESENT

- Gained knowledge about several business field like Management, Strategy, Financial and marketing from group study.
- Gained expertise in business strategy areas and inisght for various industry from weekly industry analysis session.

Honors & Awards

International

2014	**Finalist**, DEFCON 22nd CTF Hacking Competition World Final	*Las Vegas, U.S.A*
2013	**Finalist**, DEFCON 21st CTF Hacking Competition World Final	*Las Vegas, U.S.A*
2011	**Finalist**, DEFCON 19th CTF Hacking Competition World Final	*Las Vegas, U.S.A*
2012	**6th Place**, SECUINSIDE Hacking Competition World Final	*Seoul, S.Korea*

Domestic

2015	**3rd Place**, WITHCON Hacking Competition Final	*Seoul, S.Korea*
2013	**Silver Prize**, KISA HDCON Hacking Competition Final	*Seoul, S.Korea*
2013	**2nd Award**, HUST Hacking Festival	*S.Korea*
2010	**3rd Award**, HUST Hacking Festival	*S.Korea*
2012	**3rd Award**, Holyshield 3rd Hacking Festival	*S.Korea*
2011	**2nd Award**, Holyshield 3rd Hacking Festival	*S.Korea*
2011	**5th Place**, PADOCON Hacking Competition Final	*Seoul, S.Korea*

Presentation

6th CodeEngn (Reverse Engineering Conference)

Seoul, S.Korea

Presenter for <DEFCON 20th : The way to go to Las Vegas>

Jul. 2012

- Introduced CTF (Capture the Flag) hacking competition and advanced techniques and strategy for CTF

6th Hacking Camp - S.Korea

S.Korea

Presenter for <Metasploit 101>

Sep. 2012

- Introduced basic procedure for penetration testing and how to use Metasploit

Writing

A Guide for Developers in Start-up

Facebook Page

Founder & Writer

Jan. 2015 - PRESENT

- Drafted daily news for developers in Korea about IT technologies, issues about start-up.

AhnLab

S.Korea

Undergraduate Student Reporter

Oct. 2012 - Jul. 2013

- Drafted reports about IT trends and Security issues on AhnLab Company magazine.

Program Committees

2013	**Organizer & Co-director**, 1st POSTECH Hackathon	*S.Korea*
2012	**Staff**, 7th Hacking Camp	*S.Korea*
2012	**Problem Writer**, 1st Hoseo University Teenager Hacking Competition	*S.Korea*
2012	**Staff & Problem Writer**, JFF(Just for Fun) Hacking Competition	*S.Korea*