

Mark Edmonds

ARTIFICIAL INTELLIGENCE RESEARCHER · ROBOTICS RESEARCHER

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Education

University of Los Angeles, California

Ph.D. in Computer Science, Artificial Intelligence Concentration; Advisor: Prof. Song-Chun Zhu

Los Angeles, California

September 2017 - Present

University of Los Angeles, California

M.S. in Computer Science; Thesis Advisor: Prof. Song-Chun Zhu

Los Angeles, California

September 2015 - June 2017

University of Dayton

B.S. in Computer Engineering; Thesis Advisor: Prof. Tarek Taha

Dayton, Ohio

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

- [2] **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 Oral
- [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

Software Engineer & Security Researcher (Compulsory Military Service)

Seoul, S.Korea

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

Game Developer Intern at Global Internship Program

LA, U.S.A

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)

Researcher for <Detecting video's torrents using image similarity algorithms>

Pohang, S.Korea

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)

Software Engineer Trainee

Seoul, S.Korea

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)

Software Engineer

Seoul, S.Korea

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

S.Korea

Freelance Penetration Tester

Sep. 2013, Mar. 2011 - Oct.

2011

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

Experience

R.O.K Cyber Command, MND

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- Conducted penetration testing on SAMSUNG Smart TV.

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 On 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 insight for various industry from weekly industry analysis session.

Honors & Awards

International

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

Domestic

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

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