

Youngtae Noh

CONTACT INFORMATION	Hi-Tech 1009, 100 Inha-ro, Nam-gu, Incheon 402-751 Republic of Korea	<i>Phone:</i> +82-32-860-7445 <i>E-mail:</i> ytnoh@inha.ac.kr, youngtae.noh@gmail.com <i>Homepage:</i> http://nsl.inha.ac.kr/
RESEARCH INTERESTS	Cloud Computing, Distributed Systems, Datacenter Networking, Mobile Computing, Ubiquitous/Passive Sensing, Indoor Localization, Underwater Sensor Networks, Wireless Sensor Networks	
EDUCATION	University of California, Los Angeles, USA Ph.D. in Computer Science Dissertation Adviser: Professor Mario Gerla	September 2008 - June 2012
	Gwangju Institute of Sci. and Tech., Republic of Korea M.S. in Information and Communication Thesis Adviser: Professor Kiseon Kim	August 2004 - February 2007
	Chosun University, Republic of Korea B.S. in Computer Sciences (First Class Honours)	March 1997 - June 2004
PROFESSIONAL EXPERIENCE	Dept. of Computer Science and Engineering, Inha University, Incheon, Republic of Korea <i>Assistant Professor</i>	September 2015 - Present
	<ul style="list-style-type: none">• Working on Positive Computing (Mobile Sensing, Intelligent Data Gathering Platform, Data Abnormal Detection, etc.)• Working on Wi-Fi over Software Defined Networking (SDN)• Working on Cluster Resource Management over Parallel Processing Frameworks (i.e, Hadoop, Spark. etc.)• Working on Netflow: detecting user's presence via aggregated network flows (i.e., number of packets, average inter-packet interval, average payload size per duration)	
	Dept. of Computer Science, Purdue University, West Lafayette, Indiana, USA <i>Postdoctoral Research Associate</i>	February 2015 - August 2015
	<ul style="list-style-type: none">• Working on Software Defined Networking (SDN)• Working on Distributed Systems (Cloud Computing)• Working on Netflow: detecting user's presence via aggregated network flows (i.e., number of packets, average inter-packet interval, average payload size per duration)	
	Cisco Systems, Inc., San Jose, California, USA <i>Staff Engineer</i>	July 2012 - November 2014
	<ul style="list-style-type: none">• Working on data center core switching technology in control plane, virtual Port-Channel (vPC) which is aggregating core switches (Nexus 7K) as a logical switch• Developing NX-OS (Cisco data center switch operating system) modules• Working on TRILL (IETF standardization for data center wiring and monitoring)	
	Network Research Lab, UCLA, Los Angeles, California, USA <i>Research Assistant</i>	June 2009 - June 2012
	<ul style="list-style-type: none">• Developed and implemented a collaborative indoor positioning scheme (CLIPS) that requires no preexisting indoor infrastructure.	

- Devised personal content networking (PCN) that uses a single persistent, hierarchical naming space for personal content, allows users to securely initialize their devices and establish trust with other users and supports content centric access control via attribute-based encryption (ABE) for selective sharing where access control is not tied into hosts and yet fine-grained attribute based access control is permitted.
- Developed and implemented MAC and routing protocols that operate in Underwater Acoustic Sensor Networks (UWA-SNs).
- Developed and implemented the prototype of Content-centric Network (CCN) Torrent, a CCN P2P file sharing system that is to operate in VANETs (Vehicular Ad Hoc NETWORKS).
- Developed protocols and algorithms that exploit white spaces made available by cognitive radios.

Yahoo, Inc., Santa Clara, California, USA

Intern

June 2011 - September 2011

Developed back-end ad-server indexing scheme that optimizes budget and reduces delivery latency by performing pre-computation (i.e., off-line computation) on contract database and network topology graph.

Research Center for Integrated Access Systems at GIST, Gwangju, Republic of Korea

Researcher

September 2007 - August 2008

Developed low-power communication protocols for wireless sensor networks and location-information based management technology.

PUBLICATION
SINCE JAN. 2015

CONFERENCE

[1] Lee, K., Cho, H., Toshnazarov, K., Narziev N., Rhim, S., Han, K., **Noh, Y.**, Hong, H., "Toward Future-Centric Personal Informatics: Expecting Stressful Events and Preparing Personalized Interventions in Stress Management," *International Conference on Human Factors in Computing System (CHI)*, ACM, Hawaii, USA, April, 2020. (acceptance rate: 24%)

[2] Rhongho Jang, Seongkwang Moon, **Youngtae Noh**, Aziz Mohaisen, Daehun Nyang, "InstaMeasure: Instant Per-flow Detection Using Large In-DRAM Working Set of Active Flows," *IEEE ICDCS'19*, Dallas, TX, US, July 7-9, 2019. (acceptance rate: 25%)
http://nsl.inha.ac.kr/wikipages/files/InstaMeasure_ICDCS'19.pdf

[3] Yeojin Kim, Donghyun Kim, Junggab Son, Wei Wang, **Youngtae Noh**, "A New Fog-Cloud Storage Framework with Transparency and Auditability," *IEEE ICC*, 2018.
<http://nsl.inha.ac.kr/wikipages/files/2018ICC.pdf>

[4] Rhongho Jang, DongGyu Cho, **Youngtae Noh**, and DaeHun Nyang, "RFlow+: An SDN-based WLAN Monitoring And Management Framework," *IEEE INFOCOM'17*, Atlanta, GA, USA, May 1-4, 2017. (Best-in-session Presentation Award) (acceptance rate: 20.93%)
http://nsl.inha.ac.kr/wikipages/publication/RFlow+_infocom'17.pdf

[5] Kirill Kogan, Danushka N Menikkumbura, Gustavo Petri, **Youngtae Noh**, Sergey Nikolenko, Alexander Sirotkin, and Patrick Eugster, "A Programmable Buffer Management Platform," *ICNP'17*, Toronto, Canada, Oct 10-13, 2017. (acceptance rate: 18.7%)
<http://nsl.inha.ac.kr/wikipages/files/OpenQueue'17.pdf>

[6] Derek Schatzlein, Srivatsan Ravi, **Youngtae Noh**, Masoud Saeida Ardekani, Patrick Eugster, "The Misbelief in Delay Scheduling," *ACM PODC Workshop on Distributed Cloud Computing*, Chicago, Illinois, USA, July, 2016
http://nsl.inha.ac.kr/wikipages/files/delay_sch_DCC'16.pdf

[7] Kirill Kogan, Danushka Menikkumbura, Gustavo Petri, **Youngtae Noh**, Sergey Nikolenko,

Patrick Eugster, "BASEL (Buffering Architecture SpEcification Language)," *IEEE/ACM ANCS'16*, Santa Clara, CA, USA, March, 2016. (acceptance rate: 20%)
<http://nsl.inha.ac.kr/wikipages/publication/p69-kogan.pdf>

[8] Ciaran Mc Goldrick, Mark Matney, Enrique Segura, **Youngtae Noh**, Mario Gerla, "Water-Com: A Multilevel, Multipurpose Underwater Communications Test Platform," *ACM WUWNet'15*, Washington DC, USA, October, 2015.

JOURNAL

[1] Huma Ghafoor, **Youngtae Noh**, "An Overview of Next-Generation Underwater Target Detection and Tracking: An Integrated Underwater Architecture," *IEEE Access*, August, 2019.
http://nsl.inha.ac.kr/wikipages/files/AUI_Access'19.pdf

[2] Seongwon Han, **Youngtae Noh**, Uichin Lee, Mario Gerla, "Optical-acoustic Hybrid Network Toward Real-time Video Streaming for Mobile Underwater Sensors," *Ad Hoc Networks*, 2019.
http://nsl.inha.ac.kr/wikipages/files/optical-acoustic_ad_hoc.pdf

[3] Uichin Lee, Kyungsik Han, Hyunsung Cho, Kyong-Mee Chung, Hwajung Hong, Sung-Ju Lee, **Youngtae Noh**, Sooyoung Park, John M. Carroll, "Intelligent Positive Computing with Mobile, Wearable, and IoT Devices: Literature Review and Research Directions," *Ad Hoc Networks*, 2019.
http://nsl.inha.ac.kr/wikipages/files/intelligent_positive_computing_2018-.pdf

[4] Donghee Kim, Kyungsik Han, Jeong Seop Sim, **Youngtae Noh**, "Smombie Guardian: We watch for potential obstacles while you are walking and conducting smartphone activities," *PLOS ONE*, 2018.
http://nsl.inha.ac.kr/wikipages/files/smombie_guardian_plosone.pdf

[5] **Youngtae Noh**, Hirozumi Yamaguchi, Uichin Lee, "Infrastructure-free Collaborative Indoor Positioning Scheme for Time-critical Team Operations," *IEEE Trans. Systems, Man, and Cybernetics: Systems*, 2018.
<http://nsl.inha.ac.kr/wikipages/files/clips'18.pdf>

[6] Yonghun Kim, **Youngtae Noh**, Kesion Kim, "RAR: Real-time Acoustic Ranging in Underwater Sensor Networks," *IEEE Communications Letters*, 2017.
<http://nsl.inha.ac.kr/wikipages/files/rar'17.pdf>

[7] Huma Ghafoor, **Youngtae Noh**, Insoo Koo, "OFDM-based spectrum-aware routing in underwater cognitive acoustic networks," *IET Communications*, Vol. 11(17), 2017.
<http://nsl.inha.ac.kr/wikipages/files/osar'17.pdf>

[8] **Youngtae Noh**, Donghun Lee, "BCoPS: An energy-efficient routing protocol with coverage preservation," *IET Communications*, Vol. 11(12), 2017.

[9] Donghun Lee, **Youngtae Noh**, "SER Analysis of Scheduled TAS With MRC in the Presence of Non-Identical Channel Estimation Errors," *IEEE Communications Letters*, Vol. 19(12), 2016.

[10] Huma Ghafoor, **Youngtae Noh**, Insoo Koo, "Belief Propagation-Based Cognitive Routing in Maritime Ad Hoc Networks," *International Journal of Distributed Sensor Networks*, Vol. 12(9), 2016.

[11] Donghun Lee, **Youngtae Noh**, "Performance analysis of combining scheduling and space-time block coding under channel estimation error," *IET Communications*, Vol. 3(4), 2016.

[12] **Youngtae Noh**, Uichin Lee, Saewoom Lee, Paul Wang, Luiz F. M. Vieira, Jun-Hong Cui,

Mario Gerla, Kiseon Kim, "HydroCast: Pressure Routing for Underwater Sensor Networks," *IEEE Trans. Veh. Tech. (TVT)*, 2016.

http://nsl.inha.ac.kr/wikipages/files/HydroCast_TVT'16.pdf

[13] Dustin Torres, Jonathan Friedmana, Thomas Schmidb, Mani B. Srivastavaa, **Youngtae Noh**, Mario Gerla, "Software-Defined Underwater Acoustic Networking Platform and its Applications," *Ad Hoc Networks*, 2015.

http://nsl.inha.ac.kr/wikipages/files/UANT_adhoc.pdf

[14] Daeki Cho, Uichin Lee, **Youngtae Noh**, Taiwoo Park, Junehwa Song, "PlaceWalker: An energy-efficient place logging method that considers kinematics of normal human walking," *Pervasive and Mobile Computing*, 2015.

http://nsl.inha.ac.kr/wikipages/publication/PlaceWalker_PMC'15.pdf

[15] Uichin Lee, Joshua Joy, **Youngtae Noh**, "Secure Personal Content Networking over Untrusted Devices," *Wireless Personal Communications*, 2015.

http://nsl.inha.ac.kr/wikipages/publication/ccnfs_WPC15.pdf

More publications are available via <http://nsl.inha.ac.kr/wiki/wiki.cgi?Publications>

AWARDED RESEARCH GRANTS

- UX Improvement of SDN WiFi Networks with Reinforcement Learning
 - Role: Principle Investigator
 - Award Period: Jun. 2019 - May. 2022
 - Funding Agency: Ministry of Science and ICT, National Research Foundation of Korea (NRF)
- Developing Design Methodologies and Fundamental Technologies of Persuasive Interaction for Positive Computing (2nd Next-generation Information Computing Development Project)
 - Role: Co-Principle Investigator
 - Award Period: April 2018 - Mar. 2021
 - Funding Agency: Ministry of Science and ICT, National Research Foundation of Korea (NRF)
- Intelligent Autonomous Network Management Technology
 - Role: Principle Investigator
 - Award Period: Feb. 2018 - Nov. 2021
 - Funding Agency: Korea Electrotechnology Research Institute (KERI)
- Developing Agent for Intelligence Pricing over Open Market
 - Role: Co-Principle Investigator
 - Award Period: Dec. 2018 - Nov. 2019
 - Funding Agency: Small and Medium Business Administration (SMBA)
- VR based Treatment Platform for Autism
 - Role: Principle Investigator
 - Award Period: Oct. 2018 - Feb. 2019
 - Funding Agency: HUNO Company
- A Framework to Extend Configurability for WLAN QoS over SDN
 - Role: Principle Investigator
 - Award Period: Jun. 2016 - May 2019
 - Funding Agency: Ministry of Science and ICT, National Research Foundation of Korea (NRF)
- Realtime Processing of Building IoT Data over Cloud
 - Role: Principle Investigator
 - Award Period: Apr. 2017 - Oct. 2018
 - Funding Agency: Electronics and Telecommunications Research Institute (ETRI)
- Analyzing Security Threats in SDN-enabled WLAN
 - Role: Principle Investigator
 - Award Period: Apr. 2017 - Nov. 2017
 - Funding Agency: National Security Research Institute (NSR)
- Wearable Devices Security in Smart Grids: Threats, Vulnerabilities, and Solutions

- Role: Principle Investigator
- Award Period: Aug. 2016 - Jan. 2017
- Funding Agency: Korea Internet & Security Agency (KISA)

TALKS & PRESENTATIONS

- MAC and Routing Protocols for Mobile Underwater Acoustic Sensor Swarms
Korea Advanced Institute of Science and Technology (KAIST), February 2013, Daejeon, Republic of Korea
- MAC and Routing Protocols for Mobile Underwater Acoustic Sensor Swarms
Cisco System, Inc., April 2012, Milpitas, CA, USA
- Pressure Routing Protocols for Underwater Sensor Networks
Gwangju Institute of Science and Technology (GIST), February 2011, Gwangju, Republic of Korea
- GENERative Waveform Agnostic Gateway (GENWAG) architecture
Office of Naval Research (ONR), February 2010, San Diego, CA, USA
- MAC and Routing Protocols for Mobile Underwater Acoustic Sensor Swarms
ICNP, 2010, Osaka, Japan

OTHER PROFESSIONAL ACTIVITIES

- **TPC co-chair:** IEEE ICMU (2020)
- **TPC member:** IEEE/ACM COMSNETS (2019)
- **TPC member:** IEEE INFOCOM (2017)
- **TPC member:** IEEE MobiQuitous (2016)
- **TPC member:** IEEE ICDCS (2016)
- **TPC member:** IEEE ICMU (2015)
- **Conference/Workshop reviewer:** MobiCom (2009, 2011), MobiHoc (2010, 2011), GLOBECOM (2011), ACM WUWNet (2011, 2012), MILCOM (2011)
- **Journal reviewer:** IEEE Transactions on Mobile Computing, IEEE Transactions on Computers, IEEE Transactions on Vehicular Technology, IEEE Transactions on Wireless Communications, IEEE Communications Letters, Elsevier Ad Hoc Networks
- **Guest Lecture**, “Propagation Delay-aware Opportunistic MAC Protocol for Mobile Underwater Networks,” CS219 (Current Topics in Computer System; Instructor: Prof. Mario Gerla), February 2012
- **Guest Lecture**, “Pressure Routing for Underwater Sensor Networks,” CS219 (Current Topics in Computer System; Instructor: Prof. Mario Gerla), February 2012

HONORS AND AWARDS

You-Amaze-To Award (Cisco Achievement Program)	March 2014
Four-Year Fellowship (4YF) by Stony Brook University (SUNY)	September 2008
Brain Korea 21 Scholarship	March 2005 - February 2007
Governmental Scholarship (MOST)	March 2005 - February 2007
Graduate with First Class Honours at Chosun University	February 2005
Chosun University Best Student Award	February 2005
Chosun University Undergraduate Scholarship	August 2002 - February 2005
Third Prize at Window-XP Performance Demonstration Contest	April 2001
Held by AMD Inc. & Microsoft Co.	