

# NODIR KODIROV

[knodir@cs.ubc.ca](mailto:knodir@cs.ubc.ca) ♦ <https://knodir.github.io> ♦ <https://github.com/knodir>

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## EDUCATION

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### University of British Columbia

*Ph.D. in Computer Science*

September 2013 - Present

*Vancouver, BC, Canada*

I am broadly interested in Systems research with the focus on datacenter networking. Recently, I have been working on challenges of running Network Functions at datacenter scale. I am advised by Ivan Beschastnikh in the Networks, Systems, and Security laboratory.

### Konkuk University

*M.Sc. in Computer Science & Engineering*

September 2008 - August 2010

*Seoul, Republic of Korea*

Thesis: Enhancing eCos with EDF Scheduling and Lock-Free buffer

Thesis advisor: Doo-Hyun Kim

### Tashkent University of Information Technologies

*Bachelor in Information & Communication*

September 2004 - June 2008

*Tashkent, Uzbekistan*

Thesis: Organization of working with confidential information in electronic document exchange

Thesis advisor: Rustam Khamdamov

## WORK EXPERIENCE

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### ZeroStack Inc.

*MTS Consulting Engineer*

September 2016 - November 2016

*Mountain View, CA, USA*

Continued to work on enterprise applications performance in parallel with my graduate study.

### ZeroStack Inc.

*MTS Intern; Enterprise Application QoS in OpenStack*

May 2016 - September 2016

*Mountain View, CA, USA*

Extended my work from previous internship to focus on enterprise workloads. Evaluated and improved performance of several applications, such as Hadoop, Memcache, Redis, MySQL and Jenkins, using more advanced VM volume placement. I also developed Cinder scheduler(s) to provide better locality.

### ZeroStack Inc.

*MTS Consulting Engineer*

January 2016 - April 2016

*Mountain View, CA, USA*

Continued to work on network, storage QoS of private clouds in parallel with my graduate study.

### ZeroStack Inc.

*MTS Intern; OpenStack Networking*

May 2015 - December 2015

*Mountain View, CA, USA*

Mainly worked with Neutron. Evaluated different network configuration and fine-tuned OpenStack networking for performance and scalability. Also developed OpenStack network benchmark framework.

### Electronics and Telecommunications Research Institute

*Member of Engineering Staff*

September 2010 - July 2013

*Daejeon, Republic of Korea*

### Cloud Data Center Networking project (March 2012 - July 2013)

The project aimed to automate/optimize virtual machine networking. I developed Edge Control Protocol (ECP), and Virtual Station Interface Discovery and Configuration Protocol (VDP) on [ZebOS Network Platform](#). Both of these protocols are based on [IEEE 801.1Qbg](#) standard.

## Cloud Computing Management project (September 2010 - March 2012)

The scope of this project was to build a framework to manage compute, storage, and network resources of the Virtual Machines in the Cloud.

## RESEARCH EXPERIENCE

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### Graduate Teaching and Research Assistant

*Networks, Systems, and Security Lab*

September 2013 - Present

*University of British Columbia*

I was a TA for following courses at UBC, CPSC 210: Software Construction, CPSC 317: Internet Computing, and CPSC 416: Distributed Systems. I also did research assistantship for several projects that you can see in my publication record at the end of the CV.

### Research Assistant

*Embedded Computing Lab*

September 2008 - August 2010

*Konkuk University*

I developed a resource scheduling algorithm for the Real-time Operating System ([Embedded Configurable OS](#)) kernel, which was used at the *Unmanned Aerial Vehicle Software* project (supported by the Ministry of Knowledge Economy, Korea). This work later became part of my masters thesis, which also became a conference paper and extended to a journal paper.

### Research Assistant

*Department of Applied Mathematics and Informatics*

March 2008 - May 2008

*Moscow State University, Tashkent branch*

I designed and implemented secure document exchange system using custom cryptographic algorithm (Private Box Algorithm). This work became part of my undergraduate thesis.

### Research Assistant

*Department of Information Technologies*

January 2007 - February 2008

*Tashkent University of Information Technologies*

I designed and implemented new encryption algorithm: Private Box Algorithm. I also deployed various security tools on department LAN, including public/private key infrastructure, and firewall.

## PRESENTATIONS

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### VNF Chain Allocation and Management at Data Center Scale

August 23, 2019 at **MSRA** (Microsoft Research Asia), August 22, 2018 at **UWaterloo**; July 25, 2018 at **CMU**; July 23, 2018 at **ANCS'18**.

## AWARDS & HONOURS

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### Four Year Doctoral Fellowship

*for International PhD students*

September 2014 - September 2019

*by University of British Columbia, Canada*

Guaranteed financial support of at least CAD \$26,000/year plus tuition for four years of PhD study.

### Korean Government IT Scholarship

*for International Graduate Students*

September 2008 - August 2010

*by Institute for Information Technology Advancement, Korea*

Fully-funded master degree education at Konkuk University (USD \$32,000/year).

### Beruni Scholarship for Outstanding Student in Information Tech.

*in Science & Technology*

Nov. 2007 - June 2008

*by Ministry of Higher & Secondary Education, Uzbekistan*

The most prestigious merit-based national science scholarship named after *Biruni*. Award provides a fully-funded, unconditional graduate admission at any postgraduate university of Uzbekistan.

### Runner-up for the Presidential Award

*in Information Technologies*

November 2007

*by Ministry of Higher & Secondary Education, Uzbekistan*

I was one of three finalists to compete for the Presidential Award between undergraduate students in information technology major. Only one student is awarded each year.

**Merit-based Scholarship for Fully-funded Undergraduate Study**      Sep. 2004 - June 2008  
*based on national entrance examination*      *by Uzbekistan government*

A fully-funded bachelors degree education in Tashkent University of Information Technologies.

## **COLLABORATION & SERVICE**

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I had an opportunity to work with these amazing students: Syed Mubashir Iqbal, Marlon Ou, Lise Savard, Omar Sabry, Alex Crooks, Vincent Hui.

I also subreviewed paper(s) for following conferences: [NSDI 2019](#), [ICDCS 2018](#), and [ISSRE 2017](#).

## **PUBLICATIONS**

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See [knodir.github.io](https://knodir.github.io).