

# SUBINA KHANAL

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Intelligent-distributed Cloud and Security (ICNS) Lab, Kyung Hee University (Global Campus)

Department of Computer Science and Engineering

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**OBJECTIVE** In pursuit of a professional experience where I can nurture my true potential of technical and analytical skills in software development and testing.

**SKILLS**

- **Programming languages** : JAVA, Python, C, C++
- **Tools** : JIRA, Redmine, TestRail
- **Web and Database management** : HTML, CSS, SQL
- **ML frameworks** : TensorFlow, Keras
- **Data Analytics Packages** : Scikit-learn, NumPy, Pandas, Seaborn, Matplotlib
- **Soft Skills** : Project Management, Teamwork, Critical Thinking, Problem Solving

**INDUSTRY EXPERIENCE**

**Tekvortex Pvt. Ltd.** 2018 - 2019  
Quality Assurance Engineer (QA) on a data archiving platform for Smarsh Inc. (for Skype, Skype for Business, Jabber, QQ, LinkedIn, and Facebook)

- *Functional and Non-Functional Testing*
- *Integration Testing*
- *Issue Analysis and Replication: Regression Testing*
- *Managing Test Cases and Test Runs using TestRail*
- *Project Documentation and Communication*

**mDev Tech Solutions Pvt. Ltd.** 2017 - 2018  
Junior Quality Assurance Engineer (QA) on ICA (International Center for Academic College of Distance Education & Online Studies) website, DPAY, Easy Inventory Management, MBM Gateway Project

- *Web Application Testing*
- *API Testing*
- *Writing and Execution of Manual Test Cases*
- *Preparation of appropriate and accurate documentation at all levels of quality spectrum*
- *Functional Testing and Integration Testing*
- *Defect Tracking and System Testing*

	<b>Planet Earth Solution Pvt. Ltd.</b> Intern, Web Development using .Net	April-June 2016
	<b>mDev Tech Solutions Pvt. Ltd.</b> Intern, Quality Assurance Training	April-May 2017
<b>ACADEMIC EXPERIENCE</b>	<b>Kyung Hee University, ICNS Lab</b> Graduate Research Assistant with Prof. Eui-Nam Huh	2020 - Present
	<b>Kyung Hee University, ICNS Lab</b>	2020 - Present
	<ul style="list-style-type: none"> <li>• Blood Pressure Monitoring System using JAVA</li> <li>• AI Networking Project (Distributed Collaborative Learning for Edge Caching) using Python</li> </ul>	
	<b>Orchid International College, Tribhuvan University</b>	2012 - 2016
	<ul style="list-style-type: none"> <li>• Web Design and Development in PHP</li> <li>• E-commerce Site Application in JAVA</li> </ul>	
<b>EDUCATION</b>	Master's in Computer Science and Engineering Department of Computer Science and Engineering <b>Kyung Hee University</b> , Yogin-si, South Korea	2020 - 2022 (February)
	<ul style="list-style-type: none"> <li>• Thesis title: <b>Distributed Learning for Proactive Content Caching in Edge Networks</b></li> <li>• Advisor: Prof. Eui-Nam Huh</li> <li>• Status: Successfully defended and submitted the MS thesis</li> </ul>	
	<b>CONCENTRATION</b> Edge Computing, Machine Learning, Federated Learning	
	<b>CURRENT RESEARCH</b> Proactive Content Caching in Self-Driving Car using Hierarchical Federated Learning	
	Bachelor's Degree in Information Management (BIM) , <b>Orchid International College, Tribhuvan University</b> , Kathmandu, Nepal	2016
<b>SELECTED SCHOLARSHIPS AND AWARDS</b>	<b>Excellent Paper</b> at Korea Software Congress, KIISE	2021
	<b>Best Paper Award</b> at ICUFN	2021
	<b>Ministry of Science and ICT Fellowship</b> , Republic of Korea	2020 - Present
	<b>Brain Korea 21st Century Plus Fellowship</b>	2020
	<b>Presidential Scholarship</b> at Kyung Hee University	2020 - 2021
	<b>Rising Star Award</b> , Tekvortex Pvt. Ltd.	2018
	<b>Academic Excellence Award</b> for securing first rank out of 800 students in the university	2016
	<b>Full Scholarship for Advance JAVA Training</b> , Broadway Infosys Nepal	2016
	<b>University's Scholarship, Full tuition waiver</b> for securing highest rank in academic semesters 3rd, 6th, 7th	2014, 2015, 2016

**JOURNAL  
PUBLICATIONS**

[J2] **Khanal, Subina**, Kyi Thar, and Eui-Nam Huh. “**DCoL: Distributed Collaborative Learning for Proactive Content Caching at Edge Networks.**” *IEEE Access* (2021)

[J1] **Khanal, Subina**, Kyi Thar, and Eui-Nam Huh. “**Route-based Proactive Content Caching using Self-Attention in Hierarchical Federated Learning.**” *Under Review after Revision, IEEE Access* (2021)

**CONFERENCE  
PUBLICATIONS**

[C5] **Khanal, Subina**, Thar, K., Hossain, M. D., & Huh, E. N, 2021, August. “**Proactive Content Caching at Self-Driving Car Using Federated Learning with Edge Cloud**”. In 2021 Twelfth International Conference on Ubiquitous and Future Networks (ICUFN). 17–20 August, Jeju Island, South Korea. (Selected for Oral Presentation) (Best Paper Award).

[C4] **Khanal, Subina** , and Eui Nam Huh. “**Distributed Learning-Based Proactive Content Caching for Improved Quality-of-Experience (QoE).**”. In 2021 Proceedings of the Korean Society of Information Sciences Academic Presentation, Jeju Island, South Korea. (Selected for Poster Presentation) (Excellent Paper Award).

[C3] Hossain, Md Delowar, **Subina Khanal**, and Eui-Nam Huh, 2021, August. “**Efficient Task Offloading for MEC-Enabled Vehicular Networks: A Non-Cooperative Game Theoretic Approach**”. In 2021 Twelfth International Conference on Ubiquitous and Future Networks (ICUFN). 17–20 August, Jeju Island, South Korea.

[C2] Sone, Phoo Pyae, **Subina Khanal**, and Eui-Nam Huh. “**Edge-Coordinated On-Device Learning for Personalized Intelligent Digits Recognition.**” In 2020 Proceedings of the Korean Society of Information Sciences Academic Presentation.

[C1] ur Rahman, W., Lee, S. J., **Khanal, S.**, An, Y., & Huh, E. N. (2020). “**Impact of Segment Duration on the Performance of Adaptive Streaming Algorithms over Mobile Networks**”. In 2020 Proceedings of the Korean Society of Information Sciences Academic Presentation.

**ACADEMIC  
SERVICE**

**Reviewer**, IEEE Access

Last Updated: January 15, 2022