

**Date of birth:** 08/01/1997 | **Nationality:** Ethiopian | **Gender:** Male | (+1) 7786821721 | [yonasgk1721@gmail.com](mailto:yonasgk1721@gmail.com) |

26 Warwick Ave, Burnaby, BC V5B 3X3, V5B 3X3, Burnaby, Canada

## ● WORK EXPERIENCE

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09/09/2021 – CURRENT – Burnaby, Canada

**RESEARCH ASSISTANT** – COMPUTER SYSTEMS GROUP, SIMON FRASER UNIVERSITY

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- Working on Memory architecture, processing in/near memory, secure cache and memory systems, memory reliability

02/01/2021 – 20/08/2021 – Daejeon, South Korea

**RESEARCH INTERN** – COMPUTER ARCHITECTURE AND SYSTEMS LAB, SCHOOL OF COMPUTING, KAIST

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- Designed and Implemented a Pytorch+TensorRT framework for heterogeneous(CPU+ Inference Accelerator) On edge DNN training.

<http://casys.kaist.ac.kr/index.html>

04/02/2020 – 24/12/2020 – Daejeon, South Korea

**RESEARCH INTERN** – CAST HARDWARE INNOVATION LAB, SCHOOL OF ELECTRICAL ENGINEERING, KAIST

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- Mapped BNN(Binary Neural Network) onto an open-source RISC-V core, Ibex from Pulp Platform, to accelerate DNN inference.
- Completed RTL customization for MAC to XNOR-BitCount replacement, and implemented a simple library for constructing inference models. Resulted in 2x reduction in memory footprint and 1.25x improvement on inference time.

<https://castlab.kaist.ac.kr/>

27/02/2019 – 29/11/2019 – Daejeon, South Korea

**RESEARCH INTERN** – COMPUTER SYSTEMS AND NETWORK LAB, SCHOOL OF ELECTRICAL ENGINEERING, KAIST

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- Part of a team working on a new Deadlock Avoidance Mechanism for HPC systems.
- Completed a paper, Restricted Intermediate Node Non-minimal Routing for Deadlock Avoidance in High Radix Topology.
- I suggested using Restricted Intermediate Nodes for Non-minimal paths, simulated designs for butterfly topology, compiled related works.

<http://icn.kaist.ac.kr/>

01/04/2021 – 24/06/2021 – Daejeon, South Korea

**PHYSICS II TUTOR** – INTERNATIONAL STUDENTS AND SCHOLARS SERVICE, KAIST

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- Provide one to one coaching for a freshman, where we revised key concepts and solved problem sets.

27/02/2019 – 15/06/2019 – Daejeon, South Korea

**CALCULUS II TUTOR** – INTERNATIONAL STUDENTS AND SCHOLARS SERVICE, KAIST

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- Provided one to one coaching for a freshman, where we revised key concepts and solved problem sets.

10/02/2018 – 15/06/2018 – Daejeon, South Korea

**MENTOR** – INTERNATIONAL STUDENTS AND SCHOLARS SERVICE, KAIST

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- Volunteered to mentor incoming freshmen, helped the students choose courses, provided them with course materials, and helped them settle on campus.

19/09/2019 – 29/12/2020 – Daejeon, South Korea

- Communicated international students' concerns to the School's Administration to create a suitable learning and research environment within the School.
- Assisted Electrical Engineering undergrad students in choosing courses, finding course materials, and finding labs for internships.

10/03/2018 – 04/07/2018 – Daejeon, South Korea

**MARKETING AND COMMUNICATIONS DIVISION, MEMBER – BIZWORLD KAIST**

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- Hosted international entrepreneurship conference with the theme, 4th Industrial Revolution: Human and Machine.
- I prepared application forms and proposals, reached out to potential partners, and evaluated applications.

## ● **EDUCATION AND TRAINING**

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23/02/2017 – 12/07/2021 – 291 Daehak-ro, Eoeun-dong, Yuseong-gu, Daejeon, Daejeon, South Korea

**BSC, ADVANCED MAJOR, ELECTRICAL ENGINEERING(92.66/100) – Korea Advanced Institute of Science and Technology(KAIST)**

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[www.kaist.ac.kr](http://www.kaist.ac.kr)

## ● **DIGITAL SKILLS**

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Git | Linux | C | C++ | Python | Verilog | Matlab | NVIDIA TensorRT | Pytorch | Machine Learning | gem5

## ● **PROJECTS**

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### **Projects**

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- Simple Linux shell(C)
- Multi-thread, Event driven Server for Redi Database Server(C)
- Metronome on BeagleBone(C)
- Distributed Computing Framework with gRPC(C)
- Neural Style Transfer(Pytorch)
- Implemented a 5 stage pipeline RISC-V CPU with Cache(Verilog)
- Implemented Pintos Components(Thread, User Program, Virtual Memory, File Systems)(C)
- Taxi Route Planner(C++)

## ● **HONOURS AND AWARDS**

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18/09/2018

**Best Paper Award – School of Humanities and Social Sciences, KAIST**

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2nd Place for my paper "Scientific Development in Africa", which explores the pre-colonial and post-colonial relationship between Science, Religion, and Magic.

[http://hss.kaist.ac.kr:8090/sub10/01\\_08\\_view.php?cpage=1&idx=35&search\\_gbn=1&search\\_keyword=](http://hss.kaist.ac.kr:8090/sub10/01_08_view.php?cpage=1&idx=35&search_gbn=1&search_keyword=)

01/03/2017

**HANSEOUNG SONJAEHAN SCHOLARSHIP – HANSEOUNG SONJAEHAN SCHOLARSHIP FOUNDATION**

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Award given to promising top talents from Ethiopia, expected to contribute significantly to the development of Ethiopia

<http://www.sonjaehan.org/board.php?>

[http://www.sonjaehan.org/board.php?BID=board01&GID=root&category=&mode=view&adminmode=&UID=203&CURRENT\\_PAGE=9](http://www.sonjaehan.org/board.php?)

## ● **LANGUAGES**

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### **Languages**

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Mother tongue: Amharic

Fluent: English

Basic/Intermediate: Korean/Tigrigna

## ● **RELEVANT COURSEWORK**

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### **Relevant Coursework**

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Linear Algebra, Probability and Stochastic Processes, Programming Structures for EE(Intro to System Programming), Data Structures and Algorithms, Discrete Methods, Machine Learning, Computer Network, Network Programming(Intro to Distributed Systems), Digital System Design, Computer Architecture, Parallel Computer Structure, Operating Systems and System Programming, Embedded Systems, Ethics of the Digital Age, Contemporary Social Theory, Human Communication and the Internet.