

KAZUKI MINEMURA

Email: kazuki.minemura@gmail.com, Mobile: +81-8023704256

Professional Summary

Provided comprehensive software optimization and technical support across HPC environments, AI inference, computer vision, and OS kernel domains. Led efforts from debugging and performance tuning compilers and AI libraries to designing CV-based systems, automating DevOps workflows, delivering training and customer support, and contributing to open-source projects. Actively engaged in technical communication both internally and externally, while also focusing on team development and mentorship.

TECHNICAL SKILLS

Programming Languages:	Python, C/C++, FORTRAN, MATLAB, TypeScript, VBA
Deep Learning Frameworks:	OpenVINO, Caffe, Tensorflow, PyTorch
Development Tools:	Jira, HSDS, Jenkins, Ansible, Docker, Git, Vim
Web Frameworks:	Angular, Tornado
Data Modeling/Management:	JSON, XML MongoDB
Typesetting:	TeX, LaTeX
Operating Systems:	GNU/Linux, MS Windows, Yocto BSP

PROFESSIONAL EXPERIENCE

Technical Consultant Engineer
Intel Kabushiki Kaisha, Tokyo, Japan
July 2022 – Present

Responsibilities:

- Provided optimization support for toolchains in various high-performance computing environments.
- Covered a wide technical scope including compilers, runtimes, profilers, AI libraries, and OS kernel-level issues.
- Led end-to-end efforts from bug fixes and performance tuning to internal/external training.

Key Achievements:

- **Compiler Bug Fixes and Workarounds:** Investigated issues in specific optimization phases, proposed patches and permanent workarounds, contributing to sustained developer productivity.
- **Bug Fixes in oneDNN:** Identified and resolved source-level issues causing accuracy and performance degradation in deep learning inference.
- **Performance Optimization with Intel VTune & Internal Training:** Conducted hotspot analysis and thread optimization for target applications; delivered comprehensive training for engineers.
- **SYCL Adoption and Optimization Support:** Led code migration and benchmark optimization for SYCL, a C++-based GPU programming model.

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- **Training Design and Delivery:** Designed and delivered training materials on oneDNN, VTune, SYCL, and compiler optimization for internal and external engineers.
- **vLLM Porting to Intel GPU (XPU):** Migrated CUDA-dependent components of the vLLM inference engine to SYCL, enabling execution on Intel XPU and contributing to the open-source community.
- **Kernel Fixes for Woven Planet Project:** Reproduced and analyzed performance degradation and kernel crashes on specific CPU models; developed and applied kernel patches.

Success Factors:

- Full-stack technical expertise from OS to AI libraries and GPU optimization.
- Comprehensive support from bug fixing to performance enhancement.
- Strong training and documentation skills to disseminate technical knowledge.
- Proven contributions to open-source and technical communities (e.g., vLLM XPU porting).

Computer Vision Engineer

Intel Microelectronics (M), Penang, Malaysia

Jan 2019 – Jun 2022

Responsibilities:

- Designed and deployed a multi-view grading system for science exams under China's Ministry of Education.
- Built CV/DL-based AI inference frameworks, validation systems, DevOps environments, and contributed to education and recruitment efforts.

Key Achievements:

- Developed image classification/detection system using OpenVINO for multi-view inputs.
- Established a QA system leveraging over 6,000 test cases.
- Built DevOps infrastructure using Ansible, Docker, and Jenkins.
- Led and mentored validation and benchmarking teams.
- Provided technical support to client engineers, improving satisfaction.

Success Factors:

- End-to-end support from model implementation to optimization.
- Cross-hardware validation system development.
- Fostered a knowledge-sharing culture as a technical leader.

Software Validation Engineer

Jan 2018 - Dec 2018

Responsibilities:

- Designed and deployed a multi-view grading system for science exams under China's Ministry of Education.
- Built CV/DL-based AI inference frameworks, validation systems, DevOps environments, and contributed to education and recruitment efforts.

Key Achievements:

- Developed image classification/detection system using OpenVINO for multi-view inputs.
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Success Factors:

- End-to-end support from model implementation to optimization.
- Cross-hardware validation system development.
- Fostered a knowledge-sharing culture as a technical leader.

Graduate Trainee

Jun 2016 – Dec 2017

Responsibilities:

- Supported LiDAR object detection model development and analyzed deep learning trends.
- Contributed to internal/external communication and demo development for events.

Key Achievements:

- Assisted in designing LiDAR object detection models using CV/DL techniques.
- Strengthened collaboration through weekly research meetings.
- Developed demos for internal events to showcase technical capabilities.
- Translated Autoware documentation into English, promoting OSS adoption.

Success Factors:

- Quickly learned and applied cutting-edge technologies.
- Strong communication skills to foster collaboration.
- Demonstrated execution ability as a beginner-level contributor.

EDUCATION

Ph.D. in Computer Science

Feb 2013 – Jan 2017

University of Malaya, Kuala Lumpur, Malaysia

- Conducted research on "Sketch - An Investigation into Feature Extraction in Compressed Domain"
- Published 2 ISI-indexed journal articles, 1 book chapter, and 8 peer-reviewed conference papers

M.S. in Electrical and Electronics Engineering

Apr 2010 – Mar 2012

Shinshu University, Nagano, Japan

B.S. in Electrical and Electronics Engineering

Apr 2006 – Mar 2010

Shinshu University, Nagano, Japan

PUBLICATIONS (Last 6 years)

ISI Indexed Journal

- J1. Raphaël C.-W. Phan, Yin-Yin Low, KokSheik Wong, **Kazuki Minemura**, "Strengthening speech content authentication against tampering". Speech Communication. Vol 6. 2021, (IF 2.017)

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- J2. **Kazuki Minemura**, KokSheik Wong, C.-W Phan, Kiyoshi Tanaka, "A novel sketch attack for H.264/AVC format-compliant encrypted video". IEEE Transactions on Circuits and Systems for Video Technology. Jul. 2016, (IF 9.9)
- J3. **Kazuki Minemura**, KokSheik Wong, Xiaojun Qi and Kiyoshi Tanaka, "A Scrambling Framework for Block Transform Compressed Image," Multimedia Tools and Application, Feb. 2016, (IF 2.313)

Peer Reviewed Conference Paper

- C1. **Kazuki Minemura**, Hengfui Liao, Abraham Monrroy and Shinpei Kato, "LMNet: Real-time Multiclass Object Detection on CPU using 3D LiDAR", IEEE Conference on Intelligent Robot Systems (ACIRS), pp. 28-34, 2018.
- C1. Yiqi Tew, **Kazuki Minemura** and KokSheik Wong, "HEVC selective encryption using transform skip signal and sign bin", Asia-Pacific Signal and Information Processing Association (APSIPA), pp. 963-970, 2015.
- C2. Masaya Moriyama, **Kazuki Minemura** and KokSheik Wong, "Moving Object Detection in HEVC Video by Frame Sub-sampling," IEEE International Symposium on Intelligent Signal Processing and Communication Systems (ISPACS), pp. 48-52, 2015.