Gregory Kelleher

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Summary

- Extensive R&D experience with proven track record of contributing to high-profile projects in IoT, Automotive, Cloud, and AI Accelerator domains
- Proficiency in C++17, reinforced by strong familiarity with the latest Core Guidelines (ISOCPP) standards with an emphasis on Modern CMake (3.0+)
- Provided leadership in shaping architectural choices, defining project schedules, and delivering technical presentations to key stakeholders

Experience

Qualcomm Technologies, Inc. / Software Engineer

JAN 2021 - PRESENT, CORK

- Member of Qualcomm's high-calibre Corporate R&D team, designing and developing middleware for state-of-the-art Cloud AI inference accelerator

Linux Runtime Host:

- Responsible for architecting and delivering critical feature sets (namely stream profiling tooling to provide performance analysis and optimisations)
- Self-driven effort to introduce CTest and Conan into project repositories, leading to more efficient build pipelines and streamlined dependency management

Software Ecosystem:

- Heavily contributed to the design and development of a specialised Windows kernel-mode driver (KMDF) solution
- Advocated and prevailed on the choice of C++17, following best practices
- Duly led the conversion of ancillary drivers to adopt the same model I espoused
- Pioneered implementation of WPP software tracing, significantly enhancing diagnostic capabilities and enabling real-time monitoring of system events
- Took the initiative in designing Cloud AI Manager, akin to Nvidia DCGM, and executed extensive software prototypes, ultimately securing project approval
- Tailored Jupyter notebooks to showcase the performance of Hugging Face NLP/ML models on Cloud AI hardware, illustrating capabilities to stakeholders

Overstock.com, Inc / Software Engineer

JAN 2021 - JAN 2022, SLIGO

- Responsible for building and maintaining a suite of cloud-native microservice applications in live production for Customer Relationship Management (CRM)
- Initiated and successfully deployed the AWS CDK IaC framework, significantly improving the efficiency of infrastructure provisioning and management

Jaguar Land Rover Research & Development Ireland Ltd / Software Engineer
AUG 2018 - JAN 2021, SHANNON

- Over 2 years of experience delivering robust software at the highest ISO 26262 ASIL-D rated safety-critical requirements; in research and production settings

Vehicle Domain Control Unit (VDC - Production):

- Continuous contributions to the BSP for the new Land Rover Defender (L663)
- Built extensive experience with latest automotive virtualisation technologies
- Heavily involved in the design and development of the off-boarding agent for the Land Rover Defender, with the goal to provide SOTA capabilities to enable Level 2 grade ADAS diagnostics

Next-Generation Electrical Vehicle Architecture (EVA - Research):

- Long-term commitment writing bespoke software to evaluate experimental EVA architecture proposals
- Assisted in the construction of a full-sized vehicle skeleton rig to demonstrate software running on genuine automotive hardware
- Maintained and enhanced cross-team GitLab CI/CD pipeline at scale

Intel Research & Development Ireland Ltd / Software Engineer (Internships)
MAY 2016 - SEPT 2016, FEB 2017 - AUG 2017, LEIXLIP

- Contributed to latest firmware for Quark SoC Atlas Peak BSP and built proficiencies with dynamic testing analysis for SoCs
- Delivered research project on IoT security, showcasing 'Zero-Touch' Secure Device Onboarding with Direct Anonymous Attestation (DAA) algorithms

Proficiencies

Systems/Application Programming and Scripting

- Modern C++ (C++17 and above) with Modern CMake (3.0+)
- Git, Clang/GNU toolchains, Google Test, CTest, and Conan, lcov/gcov
- Static Analyzer tooling like Clang-format, Clang-Tidy, Cppcheck, LDRA
- Familiarity with industry standards: ISOCPP, ISO26262, AutoSAR
- Python (3.8 and above) alongside Pylint, Black, Pytest
- Jupyter Notebooks with PyTorch and Hugging Face Transformers Library

Operating Systems and Platforms

- Windows (WDK), Linux and QNX (Micro-kernel UNIX)
- Numerous (x86/ARM) evaluation boards and SoC platforms
- Yocto Project and BitBake

Web and CI/CD

- GitLab Runner, Jenkins, Docker, AWS CDK, Ansible, Artifactory, GCP Cloud

Education

Maynooth University / B.Sc. Computer Science & Software Engineering
SEPT 2014 - MAY 2018
2:1 Upper Second Class Honours