

Esmond Chang



Experienced Cloud Solution Architect, Data, Storage and AI/ML Specialty

Personal Information

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Professional Summary

Experienced cloud solution architect professional with over 20 years of experience specializing in Data, Storage and AI/ML. Proven track record in designing and implementing cloud solutions that drive business growth and operational efficiency. Strong leadership abilities in technical engagement, with expertise in managing cross-functional teams and leading complex projects from conception to completion.

Professional Experience

Cloud Solution Architect, Intel Corporation, Datacenter and AI Group / US

Apr, 2020 - Sep, 2023

- Leading and managing Cloud technical engagement to explore and design Data, Storage and AI/ML solutions on Intel Xeon platform, NVMe SSD and Persistent Memory
- Developed Cloud storage NVMe SSD tiering solutions for DataLake EBS using SPDK, which improved HDFS performance by 2X and reduced TCO by 40%. Successfully architected and deployed Alibaba Cloud Block Storage design-win in Petabyte-scale deal
- Developed server's memory tiering software solution with Persistent Memory for AI recommendation system usage. Optimized vector search algorithm to reduce TCO by 30%
- Developed Software-Defined OpenZFS storage tiering software solution with storage buffer and cache, minimize the random write latency by 68% and random read latency by 98%. Achieved design-win for the Datto ZFS storage appliance with Optane P1600X technologies
- Advocated for heterogeneous memory integration among Persistent Memory, DDR RAM and CXL to enhance datacenter memory bandwidth for AI and database workloads
- Designed customer kubernetes container based stateful application storage solution by using container attached storage interface CSI with Persistent Memory
- Conducted perimeter server training pipeline performance profiling PoC with DLRM model using PyTorch, Persistent Memory and NVMe SSD

Solution Architect / Tech lead, Intel Corporation, Datacenter and AI Group / Taiwan/US

Apr, 2016 - Apr, 2020

- Managed and led NVMe SSD storage software solution enabling OEM and CSP customers. Improved RAID5 data protection performance by 1.5X and lower TCO by 80%. Successfully managed design-win across 15+ OEMs and CSP server platforms on three generations of Intel Xeon CPUs
- Managed RAID solution (VMD/VROC) software product release cadence and support marketing event. Collect customer new feature requirements integrated in the product roadmap. Architected and design-wins with HPe and IBM Cloud on Cloud data security services
- Developed NVMe SSD surprised hot-plug and LED management solutions based-on SNIA NVMe standards to improve server storage reliability and operational excellence
- Developed server OOB(Out-of-Band) software stack with Redfish standard and enabled BMC(Baseboard Management Controller) to improve manageability for NVMe SSD
- Developed storage caching software solution with Persistent Memory, improve Database MySQL and MongoDB workload's performance by 1.3X

Sr. Technical Marketing Engineer, Intel Microelectronics Asia, Software Service Group / Taiwan

July, 2009 – Apr, 2016

- Led and managed the enablement of open-source software stacks (Android) on Intel Atom CPUs to engage customers on consumer segment product design. Successfully launched the first Google Android Lollipop tablet in the market with OEM branded
- Contributed to the open-source community through Linux Kernel and userspace projects. Streamlined the Google certification approval process for Android Lollipop MR1 GOTA in 2 weeks
- Developed CI/CD DevOps with OEM partners to improve release cadence and Time-to-market
- Acted as software advocate for Linux open-source software stack (MeeGo) across Tablet, NetBook and In-Vehicle Infotainment system. Achieved 20 new design-wins, leading to the sale of millions of consumer devices branded by major companies including HP, Asus, Acer, Toshiba
- Managed software ecosystem engagement and collaboration with ISV and OSV partners include WindRiver, Phoenix, Insyde, enhancing and accelerating OEM designs

Sr. Software developer, OEM, NXP and Intel software engineering, Taiwan

Aug, 1999 – July, 2009

- Developed DSP and microcontrollers device driver for Digital Still Camera products. Successfully release first 2-megapixels camera branded by Casio and Minolta
- Developed device driver for smartphones and tablets across Windows and Linux kernel environments
- Developed software for RISC CPU IP include toolchain and compiler optimization
- Created an Ethernet device driver featuring VLAN/QoS capabilities for Intel Network Processors. Successfully implemented in millions of processors used in Content Delivery Network(CDN) segment

Expertise

Technical Expertise:

- Architect and design software/hardware cloud systems solution for Data, Storage and AI/ML
- Develop and deploy ML algorithm models, optimize pipeline on storage and computation
- Evaluate server memory and storage architecture for performance enhancements
- Conduct server performance benchmark profiling within heterogeneous computing environment
- Integrate SW/HW for ARM/X86 CPU architecture with extensive trouble-shooting experience
- Proficient in C, C++, Python, Shell script, html, java script and observability tools
- Develop cloud-native application using microservice, docker, service mesh and Kubernetes
- Specialized in ethernet usage TCP/IP, VLAN/QoS, NVMe-oF and RDMA implementation
- Automated software DevOps CI/CD processes using git, Jenkins and Ansible

Soft Skills:

- Proven track record in leading and managing complex projects, successfully coordinating and consolidating diverse stakeholders perspectives
- Demonstrated expertise in engineering development and technical marketing strategy to transform customer technical requirements into actionable product solutions
- Business acumen in technical engagement with strategic business and technical planning for objective prioritization and leadership in business decisions
- Active learning with passion, resilient and thriving in dynamic fast-paced environments
- Strong communication skills with excellent team collaboration capabilities
- Fluent in both English and Mandarin. Extensive Multiple-Geo work experience with deep cultural understanding on inclusivity and diversity

Certification

- **AWS ML speciality** - In-depth understanding of data analytics for ML and proficiency in building, training, tuning, and deploying ML models using both open-source frameworks and AWS
- **AWS solutions architect associate** - Demonstrates broad knowledge and skills in cloud and hybrid-cloud technologies, catering to a diverse range of customer needs on AWS
- **AWS certification Subject Matter Expert (SME)** - Domain expert in data and machine learning, involved in the creation and review of exam content for AWS certification development
- **GCP Professional Cloud Architect** - Expertise in designing and implementing comprehensive cloud solutions that align business objectives with the capabilities of the Google Cloud Platform
- **Intel technical leader** - Recognized for outstanding technical expertise, strategic impact, and a strong track record in mentoring and role modeling within the technical community
- **Intel inclusive leader Alumni** - Acknowledged as a leader who transforms organizational culture, promotes inclusivity, builds trust, and respects individuality
- **Intel Edge AI** - Specialized in deploying AI technologies at the edge, close to IoT devices, optimizing for low power consumption and reduced latency
- **PMP** - Expert in leading project teams and project quality, ensuring high standards of delivery

Education

Master of Electronic Engineering, computer image processing major

Chang Gung University, Taiwan

Sep. 1996 - Jun. 1998

Bachelor of Electrical Engineering, computer science & architecture major

National Yunlin University of Science & Technology, Taiwan

Sep. 1992 – Jun. 1996

