Linh-An Phan

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Hi, I am an IT professional with a total 10 years of continually studying and working with various technologies. I have extensive knowledge of Kubernetes, cloud services, software architecture, distributed and scalable systems, networking protocols, and Internet of Things systems. My most valuable skills are problem solving, outside-the-box thinking, and quick learning. I love solving technical problems, developing practical solutions, and building reliable systems using novel and scientific approaches. I am looking for an opportunity to learn new skills and collaborate with brilliant colleagues.

Work Experience

University College Cork, *Postdoctoral Researcher*   03/2022 – Present

- Setup a complete 5G system (service-based architecture) on Kubernetes environment
- Implemented the Virtual Local Area Network feature on top of 5G network to reduce communication latency

Relevant skills: TCP/IP network analysis, Kubernetes, microservices configuration, docker-compose, automation deployment, network virtualization, Linux, and Python

Chungbuk National University, *Postgraduate Researcher*   03/2017 – 02/2022

- Developed an off-loading algorithm (Python) for a distributed edge computing system
- Modified the Scheduler module in Kubernetes (Go) to control where to deploy web services, reduced the delay of service by 40% when they scale out
- Automated the deployment and scaling process of services in EdgeX (microservices-based IoT gateway) using Kubernetes, enabled remote and large-scale deployment for EdgeX
- Developed distributed time synchronisation protocols (C++, Python) for large-scale wireless sensor networks (1000+ nodes), improved the synchronisation speed 3x faster
- Developed an IoT gateway (Java) that can support various networks and device types. This design was registered as a patent and was bought by a IoT company in Korea
- Assisted my advisor in mentoring 7 Master's students, managing the lab, and writing research proposals

Samsung Electronics Vietnam, *Software Engineer*   06/2013 – 02/2017

- Selected to build up and lead a new team (Change Management), in charge of setting up and merging Android system codes, analysing and resolving system issues
- Led the Compatibility Test Team, built a web-based tool (JavaScript + HTML) to convert Myanmar strings in Samsung apps, which saved development times from **months to days** (received **Best Employee Award**)
- Built and released Android OS for Samsung phones

Skills

- Software development: Python, C++, Java, Go, SQL/NoSQL database, REST API, gRPC, Git
- Software architecture: client-server, microservice, message queue, load-balancing, proxy, caching
- Software deployment: Docker, Kubernetes, VMware, CI/CD, DevOps, cloud services (AWS, Azure), Helm
- Others: software-defined networking, data processing, machine learning tools, infrastructure as code, SRE

Education

Chungbuk National University, Korea   03/2017 – 02/2022

M.S. & Ph.D. in Information and Communication Engineering (GPA: 99.55/100)

Received **Excellence Researcher** and **Best Thesis Awards, 10+ publications, 4 patents**

Projects

Distributed federated learning simulation (Python)
- Implemented a simulation tool to simulate the process of federated learning in distributed architecture

Bigdata analysis platform (Django, Python)
- Implemented data pre-processing module