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YANG DENG

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Profile

I am a dedicated and quality-minded software engineer with many years experience in product development using modern technologies. I have a clear logical mind to take a practical approach to problem-solving and a strong willingness to make the solutions come into effect. I am never afraid of new things and often my solid programming knowledge will help me learn them faster. Also, I am an enthusiast of agile development and I believe fast iteration is the core competence of the team and the product it develops. I wish my skills to be polished in a challenging working environment and become a valuable asset to the organisation that I work for.

Employment

Senior Cloud Developer — **Kone** — **Mar. 2021 – Present**

24/7 Connected Service

- Assumed lead developer role to participate architect design and implementation of feature changes and improvements
- Maintained core components that ingest millions of messages per day from elevators and escalators globally as well as high-performance APIs that provide aggregated data to internal and external customers
- Cut 60% DynamoDB cost (saved $20K per month) by applying auto-scaling policy
- Achieved highest grade in 2022 & 2023 performance appraisal
- AWS Certified Solutions Architect – Associate & AWS Certified Developer - Associate

Senior Software Engineer — **Helvar** — **May 2017 – Mar. 2021**

Lighting Intelligence Platform

- Designed and implemented (Node.js) components of cloud gateway for ActiveAhead wireless lighting system where each component runs as a microservice and RabbitMQ is used as message broker and Redis as database. The gateway uses AWS IoT not only for communication but also for other tasks like provisioning/registration, certificate management, software update, access control, etc.
- Created scripts (Makefile, Bash, Python) to build, configure, deploy and run cloud gateway via Docker image/container
- Developed parts of cloud backend using AWS Lambda, co-designed schema of AWS DynamoDB (NoSQL) and AWS RDS (SQL) tables, formed feature stack where other AWS services are used, for example S3, Kinesis, ElasticSerarch, API Gateway, Elastic Container Registry, CloudWatch, IAM, etc
- Authored two internal libraries (rabbitmq-client and logger) and published them into company's NPM registry (both have 100% test coverage and are widely used within the team)
- Built integration and end-to-end testing frameworks using PyTest (Python) and collaborated with Devops in Jenkins integration
- Contributed definition of development procedure where coding style, code quality check (SonarQube), unit test coverage, CI/CD, Git flow, release process are involved
- Worked with both Scrum and Kanban, acted as scrum master for more than 1 year

Software Engineer — **LUMO Connections** — **Nov. 2016 – Apr. 2017**

Smart Lamp

- Implemented RESTful APIs by Express framework (Node.js) on Raspberry Pi
- Developed a tiny HTTP server (C/C++) that integrated with WiFi manager on ESP8266 (NodeMCU)

Software Engineer, Researcher — **Aalto University** — **Sept. 2011 – Oct. 2016**

Adaptive 6LoWPAN Packet Size Control

- Applied SciPy to analyse and visualize massive 6LoWPAN packet data

- Proposed *first linear then exponential* algorithm that improved throughput up to 40%
- Presented paper in a well-known conference EWSN2015

Multicast for Constrained Networks
- Implemented a prototype of IPv6 Multicast Listener Discovery on Contiki OS
- Established a test bed for MPL (RFC7731) and evaluated its performance against flooding
- Drafted a simplified multicast protocol for constrained networks based on PIM-SSM

MAMMOTH - Massive Scale Machine to Machine Service
- Implemented an HTTP-CoAP mapping layer on Contiki OS
- Deployed more than 1000 emulated and real constrained devices on the platform

Software Engineer **Nokia Research Center** **Nov. 2009 – Aug. 2011**

Rich Context Mobile Platform
- Developed a publish-subscribe messaging mechanism for widgets on N900
- Filed a patent (US 20140237486 A1) on inter-widget communication

Handwriting Calculator
- Implemented user interface using GTK+ on Maemo platform
- Released on Nokia Beta Labs and won outstanding project award

Software Engineer, Intern **IBM** **June 2009 – Sept. 2009**
- Tested localization and globalization translations for Lotus Software
- Developed a Perl script to detect empty translations of the content

Additional Project Experience

- Web Developer (2017): Developed a LAMP website to calculate sales commission for tourist chain stores
- Web Developer (2016): Built an e-commerce website (`store.kanssani.fi`) using WooCommerce
- Website Administrator (2012 - 2016): Maintained a phpBB forum for scholar and student community
- Teaching Assistant (2015): Taught two course assignments (P2P networking and WiFi positioning)

Education

Espoo, Finland **Aalto University** **Sept. 2011 – Aug. 2016**
- Ph.D candidate in Computer Science and Engineering

Beijing, China **Beijing University of Posts and Communications** **Sept. 2003 – Apr. 2010**
- Master's Degree in Computer Networking, April 2010
- Bachelor's Degree in Computer Science and Engineering, June 2007

Skills

- Language: JavaScript (Node.js), Python, Bash, C/C++, Java (Kotlin)
- Platform: Unix/Linux, AWS services, Docker
- Database: SQL (PostgreSQL, MySQL), NoSQL (MangoDB, Redis, ElasticSearch)
- Utilities: RabbitMQ, Apache Kafka
- Tools: Git, Gitlab CI/CD, Jenkins, Sonarqube, Jira, Confluence
- Knowledge: Scrum, Kanban, Microservices, TDD/BDD, RESTful API, OOP, DevOps