

Sung Sil Kim

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EDUCATION

M.S. in Graduate School of Culture Technology

KOREA ADVANCED INSTITUTE OF SCIENCE AND TECHNOLOGY
Social Computing Lab (Advisor: Prof. Dongman Lee)

Daejeon, South Korea | Aug 2015 - Jun 2019

B.S. in Computer Science

KOREA ADVANCED INSTITUTE OF SCIENCE AND TECHNOLOGY

Daejeon, South Korea | Feb 2009 - Jun 2015

WORK EXPERIENCE

WAVE | CTO & FULL STACK DEVELOPER

Seoul, South Korea | Apr 2017 - Present

- Designed and implemented P2P-SFU interchangeable WebRTC backend with custom matching, load balancing and auto scaling functionality using **API Gateway, Lambda, ElastiCache** and **spot.io** in **C++** and **TypeScript**
- Led development of containerized, domain-driven RESTful API server application that serves millions of requests per day with automated unit/integration tests using **Kubernetes, gRPC, NestJS, Jest** in **TypeScript**
- Designed and implemented horizontally scalable event-sourcing WebSockets server and worker application that serves thousands of users daily using **Apache Kafka** and **Elastic Beanstalk** in **TypeScript**
- CI/CD pipeline integration for React Native app (iOS, Android), Kubernetes cluster containers and Elastic Beanstalk environments using **CodePipeline, Fastlane, CircleCI, DockerHub** and **Github Actions**
- Frontend development in **React Native**: mobile-optimized WebRTC modules, local caching (**sqlite**), voip push (**AWS SNS**), authentication (**oAuth, API token**), ranking feeds, direct messages, deep links and more
- Setup logging and data processing pipeline available for visualization (using **Fluentd, Elastic** and **Tableau**)
- Developed and maintained infrastructure monitoring and admin dashboards in **React** set up with **BFF** servers

UVR Lab | RESEARCH ASSISTANT

Daejeon, South Korea | May 2014 - Jun 2015

- Participated in Human Centric VR Distributive Research with **Samsung Digital Media & Communications**
- Proposed user-independent face landmark detection and tracking algorithm for spatial AR interaction using feature enhancements based on RGB and depth images

ETRI | INTERN

Daejeon, South Korea | Jul 2011 - Aug 2011

- Contributed to the expansion of **GENI federation testbed** availability to South Korea by interconnecting Linux-based infrastructures with computing resources across the globe in Layer 2 network topology

PROJECTS

Blend: Interactive video chat app [↗](#)

MOBILE APP

Client and server development of 1:1 WebRTC, collage layouts, filters and effects in **Java, Swift** and **Python**

ToGather: Campus-based anonymous community app [↗](#)

MOBILE APP

Client and server development of anonymous group chats, feeds and notifications app in **Java, Obj-C** and **Python**

PUBLICATIONS & TALKS

AWS Summit Seoul '21 [↗](#)

CONFERENCE

Invited talk on *How to build an interactive video chat platform in scale with limited resources and small-sized team*

Augmented Human '16 [↗](#)

CONFERENCE

Dream House: NUI-based Photo-realistic AR Authoring System for Interior Design

KIISE '15 (Best Paper Award) [↗](#)

JOURNAL

Quantified Lockscreen: Integrating Facial Expression Detection and Mobile Lockscreen for Quantified Self

SKILLS

Languages: TypeScript, JavaScript, Python, Java, C, C++, Swift, Obj-C, Shellscript, Lisp and more

DevOps: CodePipeline, Kubernetes, Docker/DockerHub, CircleCI, Fastlane, CodePush

Monitoring & Testing: CloudWatch, Elastic, Logstash, Kibana, Grafana, Prometheus, Jest, Locust, Siege

AWS: API Gateway, Lambda, EKS, MSK, SNS, WAF, Wavelength, RDS, ElastiCache, S3, Elastic Beanstalk, EC2

GCP: BigQuery, Compute Engine, DataFlow, Composer, Logging, PubSub, Cloud Functions