Hongjun Jang

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EXPERIENCE

- **Samsung R&D Institute UK**　　　　　　　　　　　　　　　　Oxford, United Kingdom
  Software Engineer　　　　　　　　　　　　　　　　　　　　　　　Oct. 2024 – Present
    - **Knowledge Graph and Reasoning Engine**: Designed and implemented OAuth 2.0–based authentication for SPARQL federated queries, including concurrency-safe token management and robust expiry handling.
    - **Cross-Platform Deployment**: Built Azure-based CI/CD pipelines and C/C++ APIs using the Hourglass pattern to enable cross-platform deployment of a commercial graph database engine.

- **Samsung Research, HQ**　　　　　　　　　　　　　　　　　　　Seoul, South Korea
  Software Engineer　　　　　　　　　　　　　　　　　　　　　　　Jul. 2020 – Sep. 2024
    - **Knowledge Representation and Reasoning**: Developed a module within the Personal Data Engine for Samsung Galaxy devices, implementing an embedded graph database and enabling inter-app communication to support on-device reasoning and personalized data services.
    - **Reinforcement Learning for Multi-Objective Constraints**: Researched and implemented multi-objective reinforcement learning algorithms to optimize decisions under conflicting objectives. Verified approximately 20% power savings in a base station PoC conducted with a leading U.S. telecom operator.

- **Republic of Korea Army Cyber Operations Command**　　　　　　Seoul, South Korea
  Sergeant, Software Engineer　　　　　　　　　　　　　　　　　　May 2018 – Jan. 2020
    - **Endpoint Security Client**: Built a Windows security client using C# and .NET 6.0, following the MVVM pattern; deployed across military networks. Optimized data transfer through delta encoding.

EDUCATION

- **Korea University**　　　　　　　　　　　　　　　　　　　　　Seoul, South Korea
  Bachelor of Science in Computer Science　　　　　　　　　　　　Mar. 2013 – Jul. 2020
  Total GPA of 3.88 / 4.5 (93.8 / 100)

RESEARCH

- **Hongjun Jang**, Eunkyu Oh, Minsoo Kim, Taehun Kim, Yunhu Ji, "Method and Electronic Device for Providing Information Using Reinforcement Learning", US Patent: US20240221018A1.
- Minsuk Choi, Kyungrae Kim, **Hongjun Jang**, Hyokyung Woo, Seowoo Jang, "Electronic Device and Operation Method for Deciding Cell On/Off Threshold Based on Traffic", US Patent: US20230032030A1.
- Minsuk Choi, Kyungrae Kim, **Hongjun Jang**, Hyokyung Woo, Joan S. Pujol-Roig, Yue Wang, Hunje Yeon, Sunghyun Choi, Seowoo Jang, "Cell On/Off Parameter Optimization for Saving Energy via Reinforcement Learning", IEEE Globecom Workshops (GC Wkshps), 2021.

AWARDS AND HONORS

- **Samsung Research S/W Award for Individual, 2024**: Review section
- **Samsung S/W Certificate: Expert Programmer, 2020**
- **International Collegiate Programming Contest, Ho Chi Minh City Regional 2017**: 3rd prize
- **International Collegiate Programming Contest, Daejeon Regional 2016**: 4th place (Minister of Science, ICT and Future Planning Award)
- **Samsung Collegiate Programming Cup, 2016**: 4th place
- **Samsung Software Track Scholarship, 2016 − 2017**: Full tuition (4 semesters)
- **Korea University Scholarship for Gifted Students in Science, 2013**: Full coverage of tuition and admission fees

SKILLS

- C++20, Python3, Ray, Rust, Kotlin, Ansible, Java, Microsoft Azure Pipelines, Google Cloud BigQuery

TEACHING

- **International Olympiad in Informatics (IOI)**: Student Assistant Coach for the Korean team (2016); Coach, IOI Training Camp in Korea (2013–2017).
- **Korea Olympiad in Informatics (KOI)**: Coach and Problem Setter (2013–2017).