Kyungrin Noh

Data Scientist, Global Business Services, IBM Korea

Contact

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Skills

Development skills

- Machine Learning
- Optimization
- Text Analysis
- Server Setup/Mgmt.

Development tools

- Python
- Java
- SQL
- Django
- Shell Scripts

Project skills

- Scheduling
- Management
- Presentation

Languages

- Korean (Native)
- English (Fluent)

Conducted *in silico* research on drug candidates from natural products and their effects in human metabolic pathways during the master's course at Korea Advanced Institute of Science and Technology (KAIST). Currently working as data scientist/consultant in Global Business Services, IBM Korea for 4+ years. Main work includes, but is not limited to, machine learning/optimization model development in python, analytics server development in Amazon Web Service, data analysis in various industries, and project management.

Work Experience

2017 - Now **Global Business Services, IBM Korea**
Data Scientist / Senior Consultant

- **V-service. Cognitive Workforce Management**
  Project Leader
  - Developed a python model to measure employee's fitness to open positions in business sites.
  - Developed Django application server and Oracle DB instance in AWS for REST API service of the fitness measure model.
  - Implemented word embedding machine learning module, *fastText*, to compare required skills with employee's career.
- **A-hospital. Automated Nurse Scheduling**
  Project Leader
  - Developed a python model to generate monthly nurse schedule, implementing the *Genetic Algorithm*.
  - To enable tight scheduling, rule-based fitness function and sequential optimization steps were introduced.
- **A-hospital. Automated Bed Allocation**
  Project Leader
  - Developed a python model to automatically allocate beds to inpatients based on their admission apply date and conditions.
  - Implemented the *Genetic Algorithm* to follow necessary allocation standards and produce the most optimized solution.
    [Press release *(English / Korean)*]
- **S-financial group. AI Market Forecasting**
  NLP Developer
  - In charge of the IBM Watson solution implementation.
  - Performed *Named-Entity Recognition* from 20+ years of news/ blog/report data, to utilize text data in market forecasting.
    [Press release *(English / Korean)*]
- **V-automotive group. Data Strategy Consulting**
  Data Consultant
  - Analyzed data quality, ownership, metadata, and architecture of the enterprise, to suggest proper data governance framework and roadmap.
- **H-insurance. AI Claim Processing**
  Data Consultant
  - Supported development of the automated insurance claim processing model, using the machine learning module of the IBM Watson solution.
- **L-chemical. Digital Sales Platform**
  Data Consultant
  - Analyzed product quality data and related systems to integrate relevant data into the one sales service.

2017 **Bio-Synergy Research Center, KAIST**
Research Associate

- Maintained a natural compound database which contains associations between natural product combinations and phenotypes inferred from heterogeneous sources.

Education

2015 - 2017 **Bio-Information System Laboratory, KAIST**
Master of Science

- **Major:** Bioinformatics ***(GPA:** 3.77/4.30)*
- Researched on drug discovery from natural products based on their similarity to human metabolites. Main activities include machine learning model development, network analysis on metabolic pathways, and molecular similarity calculation.
  [Graduation thesis - Finding pharmacological effects of human metabolites and their similar natural products]

2009 - 2015 **Department of Biological Sciences, KAIST**
Bachelor of Science

- **Major:** Biological Sciences ***(GPA:** 3.40/4.30)*
- With the curriculum mainly focused on Genetics, Biochemistry, and Molecular Biology, conducted individual research on targeted anti-tumor drug delivery.
  [Graduation thesis - Anti-tumor drug delivery via targeted yeast vacuole system]

2007 - 2009 **Hankuk Academy of Foreign Studies, Yongin, Korea**

2006 - 2007 **Calera High School, Alabama, USA**

Publications

- K Noh & S Yoo, D Lee. 2018. **A systematic approach to identify therapeutic effects of natural products based on human metabolite information.** *BMC Bioinformatics, 19.* https://doi.org/10.1186/s12859-018-2196-0.
- S Yoo, K Noh, M Shin, J Park, KH Lee, H Nam, D Lee. 2018. **In silico profiling of systemic effects of drugs to predict unexpected interactions.** *Scientific Reports, 8.* https://doi.org/10.1038/s41598-018-19614-5.
- S Yoo, S Ha, M Shin, K Noh, H Nam, D Lee. 2018. **A data-driven approach for identifying medicinal combinations of natural products.** *IEEE Access, 6.* https://doi.org/10.1109/ACCESS.2018.2874089.
- M Shin, S Yoo, S Ha, K Noh, D Lee. 2015. **Identifying Potential Bioactive Compounds of Natural Products by Combining ADMET Prediction Methods.** *Proceedings of the ACM Ninth International Workshop on Data and Text Mining in Biomedical Informatics.* https://doi.org/10.1145/2811163.2811168.
- S Ha, K Noh, M Shin, S Yoo, J Choi, H Nam, D Lee. 2015. **Identifying multi-component drug candidates in natural products via association rule mining.** *Chinese Journal of Pharmacology and Toxicology, 1.*
- S Yoo, J Choi, M Shin, S Ha, K Noh, H Nam, D Lee. 2015. **Integrative database for multi-compound drug discovery in complementary medicine.** *Chinese Journal of Pharmacology and Toxicology, 1.*

Achievements

Oct. 2020 **Lecturing at Chonnam National Univ.**

- Lectured on analytics project management in business fields.

Jul. 2020 **Lecturing at IBM P-TECH School**

- Lectured on career path of data analyst/scientist.

2009 - 2011 **Interpreter at ROK-US Combined Forces Command**

- Received Army Commendation Medal from US division chief.