YOUNGHOON JUNG, 정영훈

INFORMATION

· Ph.D. of Mathematics
· Senior Engineer at SDS, Platform Advanced Research Lab
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TECHNICAL STRENGTHS

Programming skills	Python, MATLAB, Julia, Java, Scala(Apache Spark), PyTorch
Mathematical Analysis	PDE, Inverse problems, Asymptotic analysis, Scientific computing

EMPLOYMENT HISTORY

· Samsung SDS - Platform Advanced Research Lab. 2020.01 - present
· Samsung SDS - Analytics Platform Lab. 2019.03 - 2020.12

EDUCATION

SEP 2014 - FEB 2019	Ph.D. in MATHEMATICAL SCIENCES, **KAIST**, Korea Advisor: Mikyoung Lim
SEP 2012 - AUG 2014	M.S. in MATHEMATICAL SCIENCES, **KAIST**, Korea Advisor: Mikyoung Lim
FEB 2008 - AUG 2012	B.E. in MECHANICAL ENGINEERING, **KAIST**, Korea Double Major in MATHEMATICAL SCIENCES
MAR 2005 - FEB 2008	**Korea Science Academy**, Korea

PROJECTS

RnD Cloud trace dataset. 2021.03-2021.05, at SDS

· Preparation and analysis of GPU cluster trace dataset.

Brightics Studio. 2019.12-2020.12, at SDS

· An open source data analysis workflow tool.
· Python, JAVA

Spark-function developement - Brightics A.I. 2019.12-2020.12, at SDS

· Spark function for Brightics v3.7 development
· Scala(Apache Spark)

Python SQL Query Executor - Brightics A.I. 2019.03-2020.12, at SDS

· Fast SQL query executor on Pandas development
· Python(Pandas), JAVA(Apache Calcite)

Guided Analytics - Brightics A.I. 2019.04-2019.11, at SDS

· Guided Analytics (Machine Learning automation) module development of Brightics A.I.
· Scala(Apache Spark)

Gradient estimates for composites and its applications (복합물질의 경도함수 분석과 응용연구) 2016.06-2019.11, at KAIST

· Mathematics research

Asymptotics and computation of the gradient blow-up solutions (경도함수 폭발해의 점근적 분석 및 수치적 계산) 2013.06-2016.05, at KAIST

· Mathematics research

EXPERIENCE

Teaching Assistant Sep. 2012 - Dec. 2018

· Undergraduate courses - Analysis I, Analysis II, Fourier Analysis, Introduction to Differential Geometry, Introduction to Linear Algebra, Calculus I, Calculus II.
· Graduate courses - Real Analysis, Complex Analysis.

Coursera staff, TA 2017

· Introduction to Ordinary Differential Equations (Prof. Kwon.)

KAIST OLEV Internship Summer 2011

· Designed a mechanical structure and conducted a thermal analysis of battery module of an online electric vehicle.

PUBLICATIONS AND PREPRINTS

[1] Spectral analysis of the Neumann Poincare operator on touching disks and analysis of plasmon resonance, **YH Jung**, M Lim. arXiv preprint arXiv:1810.12486

[2] Series expansions of the layer potential operators using the Faber polynomials and their applications to the transmission problem, **Y Jung**, M Lim, **SIAM Journal on Mathematical Analysis** 53 (2), 1630-1669.

[3] A decay estimate for the eigenvalues of the Neumann-Poincaré operator using the Grunsky coefficients, **YH Jung**, M Lim. (2020) **Proceedings of the American Mathematical Society** 148 (2), 591-600

[4] Numerical solution to the interface problem in a general domain using Moser's deformation method, E Hong, E Lee, **Y Jung**, M Lim, **Journal of Applied Mathematics and Computing** 65 (1), 379-401.

[5] A joint sparse recovery framework for accurate reconstruction of inclusions in elastic media. Yoo, J., **Jung, Y**., Lim, M., Ye, J. C., and Wahab, A. (2017). **SIAM Journal on Imaging Sciences**, 10(3), 1104-1138.

PRESENTATIONS

[1] Series expansion of single layer potential and Neumann-Poincare operator, contributed talk, **KSIAM 2018 Annual Meeting**, Jeju, Korea.

[2] Series representation of layer potential operators for the transmission problem, contributed talk, **ICIP 2018 Singapore**, Singapore.