# YOUNGHOON JUNG, 정영훈

## INFORMATION

- $\cdot\,$  Ph.D. of Mathematics
- $\cdot\,$  Senior Engineer at SDS, Analytics Platform Lab
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- · https://www.linkedin.com/in/yh-jung/
- $\cdot$  https://younghoon.com

### TECHNICAL STRENGTHS

Programming skillsPython, MATLAB, Julia, Java, Scala(Apache Spark), PyTorchMathematical AnalysisPDE, Inverse problems, Asymptotic analysis, Scientific computing

## EMPLOYMENT HISTORY

- $\cdot$  Samsung SDS Platform Advanced Research Lab. 2020.01 present
- $\cdot\,$  Samsung SDS Analytics Platform Lab. 2019.03 2020.12

### EDUCATION

SEP 2014 - FEB 2019	Ph.D. in MATHEMATICAL SCIENCES, <b>KAIST</b> , Korea
	Advisor: Mikyoung Lim
SEP 2012 - AUG 2014	M.S. in MATHEMATICAL SCIENCES, <b>KAIST</b> , Korea
	Advisor: Mikyoung Lim
FEB 2008 - AUG 2012	B.E. in MECHANICAL ENGINEERING, <b>KAIST</b> , 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
$\cdot$ Preparation and analysis of GPU cluster trace dataset.	
<ul> <li>Brightics Studio.</li> <li>An open source data analysis workflow tool.</li> <li>Buther LAVA</li> </ul>	2019.12-2020.12, at SDS
Spark-function development - Brightics A.I.	2019.12-2020.12, at SDS
<ul> <li>Spark function for Brightics v3.7 development</li> <li>Scala(Apache Spark)</li> </ul>	

Python SQL Query Executor - Brightics A.I.	2019.03-2020.12, at SDS
<ul> <li>Fast SQL query executor on Pandas development</li> <li>Python(Pandas), JAVA(Apache Calcite)</li> </ul>	
Guided Analytics - Brightics A.I.	2019.04-2019.11, at SDS
<ul> <li>Guided Analytics (Machine Learning automation) module development of</li> <li>Scala(Apache Spark)</li> </ul>	f Brightics A.I.
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
$\cdot$ Mathematics research	
EXPERIENCE	
Teaching Assistant	Sep. 2012 - Dec. 2018
· Undergraduate courses - Analysis I, Analysis II, Fourier Analysis, Introduct Introduction to Linear Algebra, Calculus I, Calculus II.	tion to Differential Geometry,
· Graduate courses - Real Analysis, Complex Analysis.	
Coursera staff, TA	2017

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

## KAIST OLEV Internship

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

Summer 2011

## 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.