

# JONG WOOK KIM

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## Employment

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### Pandora Media Inc.

RESEARCH SCIENTIST INTERN IN MUSIC INFORMATION RETRIEVAL

Oakland, CA

Jun 2017 - Aug 2017

- Developed a music recommendation algorithm for modeling individual listeners' tastes

### Kakao Corporation

RECOMMENDER SYSTEM ENGINEER & DATA SCIENTIST

Seongnam, S. Korea

Jun 2014 - Aug 2015

- Developed Spark applications and distributed servers for recommender systems, as well as a framework for easier Spark development
- Designed a functional stream processing framework based on Kafka, with real-time metrics collected using OpenTSDB and Grafana

### NCSOFT Corporation

GAME DEVELOPER

Seoul & Seongnam, S. Korea

May 2011 - Aug 2011, Aug 2012 - Jun 2014

- Developed a distributed fault-tolerant backend for Lineage Eternal, built using Netty/RxJava and Boost ASIO for nonblocking IO
- Developed the pathfinding engine of Lineage Eternal, used in both the game client and server, built on top of Havok AI

## Education

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### New York University

PH.D. (ANTICIPATED MAY 2019) IN MUSIC TECHNOLOGY, ADVISOR: JUAN PABLO BELLO, GPA 3.76/4.00

New York, NY

Sep 2011 - May 2012, Sep 2015 - Present

- Research interests include automatic music transcription using deep generative models and music recommendation.
- Relevant coursework: Probabilistic Graphical Models, Statistical Natural Language Processing, Convex Optimization, Deep Learning

### University of Michigan

M.S. IN COMPUTER SCIENCE AND ENGINEERING, ADVISOR: GEORG ESSL, GPA 7.76/9.00

Ann Arbor, MI

Sep 2009 - Apr 2011

- Relevant coursework: Machine Learning, Information Theory, Advanced Compilers, Advanced Computer Network

### Korea Advanced Institute of Science and Technology

B.S. IN ELECTRICAL ENGINEERING (GPA 3.97/4.30) WITH A MINOR IN MATHEMATICAL SCIENCES (GPA 4.03/4.30), OVERALL 3.83/4.30

Daejeon, S. Korea

Sep 2006 - May 2009

## Publications

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### CREPE: A Convolutional Representation for Pitch Estimation

J. W. KIM, J. SALAMON, P. LI & J. P. BELLO, IN *Proceedings of the International Conference on Acoustics, Speech, and Signal Processing*

April 2018

### Fast Music and Audio Processing Using the Julia Language

J. W. KIM, S. RUSSELL, & J. P. BELLO, IN *Proceedings of the AES Conference on Semantic Audio*

June 2017

### Concepts and practical considerations of platform-independent design of mobile music environments

J. W. KIM & G. ESSL, IN *Proceedings of the International Computer Music Conference*

Jul 2011

## Presentations

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### No More "sbt assembly": Rethinking spark-submit using CueSheet

SPARK SUMMIT EAST 2017

Boston, MA

Feb 2017

### MusicProcessing.jl: Music Information Retrieval in Julia

JULIA CON 2016

Cambridge, MA

Jun 2016

### Building High Performance Servers with Rx and Functional Reactive Programming

NEXON DEVELOPER CONFERENCE 2014

Seongnam, S. Korea

May 2014

## Miscellaneous

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**Programming** Scala, Python, Java, C/C++ professionally, and Julia, ObjC, PHP, JS, TS, Matlab for personal/research projects

**Coursera** Intro to Functional Analysis, Principles of Reactive Programming, Functional Programming Principles in Scala

**Languages** English, Korean (native), Japanese (limited working proficiency)