Junbum Cha

Machine Learning Engineer · AI Research Scientist
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EDUCATION

Yonsei University

- M.S. in Computer Science, Data Engineering Lab. Mar 2015 – Feb 2017
  - Focus: Bioinformatics, Text mining, Data mining.
- B.S. in Computer Science Mar 2009 – Feb 2015

SCHOLARSHIPS

Research Performance Scholarship, Naver, 2016
Academic Performance Scholarship, Yonsei University, 2015 – 2016
National Science and Technology Scholarship, Korean Student Aid Foundation, 2009 – 2010

EXPERIENCE

NHN Entertainment Mar 2017 – Present
Machine Learning Engineer (substitute mandatory military service)

- Developed and serviced a **superhuman level AI Go engine** "Handol 2.0".
  - Implemented and managed the entire reinforcement learning process of the AI Go.
  - Improved the performance of the learning process by self-play parameter tuning.
  - Implemented a multi-gpu training which achieves maximum performance with NCCL and TensorFlow.
  - Optimized an inference module using TensorRT.
- Developed and serviced a **professional level AI Go engine** "Handol 1.0".
  - Optimized a tree search engine and an inference module.
  - Improved the performance of a Go state evaluation engine.
  - Implemented a distributed Go state evaluation system.
- Developed a **duplicate image search engine** for cloud storage service "ToastFile".
  - Implemented an image matching engine using various computer vision technologies and approximated k-nearest neighbor algorithm.
  - Implemented a fast image grouping engine.
- Developed a **hair dyeing engine** for "Pixit - Hair Dyeing App".
  - Implemented the hair dyeing engine using generative adversarial networks.
  - Suggested an idea that improves performance of the engine using semantic segmentation.

Data Engineering Lab., Yonsei University Mar 2015 – Feb 2017
Researcher

- Developed a biomedical text mining method for gathering rich text data [1, 4, 5].
- Developed a distributed subgraph matching method based on Spark.
- Developed a political text mining to analyze the neologism [2].

Fluttr, Inc. Jan 2015 – Sep 2015
Co-founder & iOS Developer

- Developed and serviced a photo sharing social network service "Fluttr".

Software Maestro Jul 2014 – Dec 2014
Backend & Machine Learning Engineer Trainee

- Developed a personalized news service "NewsUp" based on smartphone usage profiling.
  - Implemented a RESTful API server.
  - Implemented a personalization and recommendation engine using collaborative filtering.
- Developed a simple messenger application "Gogo".

TEAM AppErest, Inc. Jul 2012 – Dec 2014
Co-founder & iOS Developer

- Developed and serviced three mobile applications.
  - Developed "Your Calligraphy", an application which provides calligraphy art work.
  - Developed a mobile coupon application "Sweet Coupon", which manages all coupons on a single smartphone.
  - Developed a student support application "SNU Discovery", which provides curriculum building and checks graduation requirements.

- Developed five mobile applications for external clients.
  - Developed a messenger application “Dontalk”.
  - Developed three reward applications “Finger box”, “Adlatte Global”, and “Earning Playground”.
  - Developed a sightseeing guide application “Blinking Seoul”.

PUBLICATIONS

[5] Cha, J., Kim, J., Park, S. “GRiD: Gathering Rich Data from PubMed Using One-class SVM,” in *Proceedings of IEEE International Conference on Systems, Man, and Cybernetics*, 2016.

[4] Cha, J., Kim, J., Yeu, Y., Park, S. “A method for obtaining rich data from PubMed using SVM,” in *Proceedings of the 31th Annual ACM Symposium on Applied Computing*, 2016.

[3] Kim, J., Bak, C., Kim, I., Kim, S., Cha, J., Park, S. “SESE: Inferring disease-gene relationships using Second Sentence in biological literature,” in *Proceedings of IEEE International Conference on Biomedical and Health Informatics*, 2016.

[2] Cha, J., Sung, J., Kim, J., Park, S. “Hell-Chosun Keyword Analysis based on Twitter,” in *Proceedings of the Fall Conference of the Korea Multimedia Society*, 2016.

[1] Cha, J., Kim, J., Park, S. “A method to extract additional biomedical text data using Support Vector Machine and PubMed,” in *Proceedings of the Korea Computer Congress*, 2015.

PATENTS

Method for Obtaining Data from PubMed using Classifier, Republic of Korea 10-2016-0010533 (Applied), 2016.

AWARDS

1st place, KAIST × Elice Data Science Edu Challenge, 2017
Finalist, Samsung Collegiate Programming Cup (SCPC), 2015
Bronze prize, Korea Olympiad in Informatics (KOI), 2006
Gold prize, Seoul Olympiad in Informatics, 2004

PROJECTS

PR12 Mar 2017 – Aug 2018
Participated in a deep learning study group whose members read 100 papers and upload YouTube videos for every paper.

tf.gans-comparison 2017
Implemented various theoretical generative adversarial networks and compared them without cherry-picking.

Great graduation 2011
Developed and serviced a web application which checks graduation requirements for Yonsei University students.

CAMPUS ACTIVITIES

Simile, Discussion club in Yonsei University 2009 – 2012
Yutar, Programming club in Yonsei University 2009 – 2012