

Contact Information	Address: Department of Computer Science, P.O.Box 15400 (Konemiehentie 2) FI-00076, Aalto University, Finland LinkedIn: http://fi.linkedin.com/in/hongyusu	E-mail: hongyu.su@me.com Mobile: +358 504305448 Github www.github.com/hongyusu Homepage: http://www.hongyusu.com
Expertise	<ul style="list-style-type: none"> . Machine learning / Optimization research . Structured output prediction . Large-scale data analysis . Kernel methods for complex data structure . Algorithmic data analysis / Bioinformatics / Recommender system 	
Programming Skills	<ul style="list-style-type: none"> . Proficient in Python, C, Matlab, Bash, R . Experienced with Spark, Hadoop, SQL, JavaScript, Tableau . Developed software packages are available from my Github 	
Educations	PhD Department of Computer Science, Aalto University , Finland 2012.02 - 2015.03 <ul style="list-style-type: none"> • GPA: 4.5/5 • Dissertation: Multilabel Classification through Structured Output Learning [original] MSc Department of Computer Science, University of Helsinki , Finland 2008.09 - 2010.09 <ul style="list-style-type: none"> • Major: 5/5, Minor: 4/5, Thesis: Eximia Cum Laude Approbatur (5/5) • Thesis: Multilabel Classification of Drug-like Molecules [original] BEng Department of Computer Science, Xidian University , China 2003.08 - 2007.06 <ul style="list-style-type: none"> • GPA: 86/100, Thesis: 5/5 	
Employments	Postdoctoral Researcher, HIIT & Aalto University , Finland 2015.04 - Now <ul style="list-style-type: none"> • Machine learning methods for large-scale structured data, Doctoral Candidate, HIIT & Aalto University , Finland 2011.01 - 2015.03 <ul style="list-style-type: none"> • Multilabel classification through structured output learning Research Assistant, University of Helsinki & HIIT , Finland 2009.05 - 2012.01 <ul style="list-style-type: none"> • Large scale sequencing data analysis with Technical Research Centre of Finland (VTT) • Structured output learning and kernel methods for classifying small graphs 	
Fundings and Awards	<ul style="list-style-type: none"> . Chinese government award for outstanding doctoral students (top 500 students world wide) 2014 . Fully funded position from Helsinki Doctoral Programme in Computer Science (HeCSE) 2011 - 2014 . Master thesis grant from Center of Excellence Grant 118653 ALGODAN 2010 . International Master's Degree Student Award, University of Helsinki 2008 	
Selected Projects and Softwares	<ul style="list-style-type: none"> . Top 5% in Facebook challenge of fraud detection in online bidding platform [Github] 2015 . Best hack in Aalto University Data Science Hackathon with a 'sport route recommender' [Github] 2015 . Machine learning for transporter protein classification [Github] 2015 . Newton methods combining multiple updates for RTA (L2RTA) [Github] 2014 . Random tree approximation (RTA) for structured output learning on complete graph [Github] 2014 . Structured output prediction of network response (SPIN) for social network analysis [Github] 2013 . Graph kernels and multiple kernel learning for classifying small graphs [Github] 2012 	
Refereed Journal Publications	Hongyu Su, Juho Rousu. Multilabel Classification through Random Graph Ensembles. <i>Machine Learning</i> , Volume 99, Issue 2 (2015), Page 231-256, DOI: 10.1007/s10994-014-5465-9. [original] [preprint]	

Refereed Conference Publications

- . Mario Marchand, **Hongyu Su**, Emilie Morvant, Juho Rousu, John Shawe-Taylor. Multilabel Structured Output Learning with Random Spanning Trees of Max-Margin Markov Networks. In *Advances in Neural Information Processing Systems 27 (NIPS 2014)*, 873-881. [\[original\]](#)
- . **Hongyu Su**, Aristides Gionis, Juho Rousu. Structured Prediction of Network Response. In *Proceedings of the 31th International Conference on Machine Learning (ICML 2014)*, Beijing, China, Journal of Machine Learning Research W&CP Volume 32:442-450, June 2014. [\[original\]](#)
- . **Hongyu Su**, Juho Rousu. Multilabel Classification through Random Graph Ensembles. In *Proceedings of the 5th Asian Conference on Machine Learning (ACML 2013)*, Canberra, Australia, 2013. Journal of Machine Learning Research W&CP Volume 29:404-418, November 2013. [\[original\]](#)
- . **Hongyu Su**, Juho Rousu. Multi-task Drug Bioactivity Classification with Graph Labeling Ensembles. In *Proceedings of the 6th International Conference on Pattern Recognition in Bioinformatics (PRIB 2011)*, Delft, The Netherlands, 2011. Springer Lecture Note in Bioinformatics Volume 7035:157-167, November 2011. [\[original\]](#)
- . **Hongyu Su**, Markus Heinonen, Juho Rousu. Structured Output Prediction of Anti-Cancer Drug Activity. In *Proceedings of the 5th International Conference on Pattern Recognition in Bioinformatics (PRIB 2010)*, Nijmegen, The Netherlands, 2010. Springer Lecture Note in Bioinformatics Volume 6282:38-49, September 2010. [\[original\]](#)
- . Anguo Dong, Lin Gao, XiaoFeng Zhou, **Hongyu Su**. An Algebra Approach for Finding Frequent Subgraphs with Hamiltonian Cycle. In *Proceedings of the 4th International Conference on Fuzzy Systems and Knowledge Discovery (FSDK 2007)*, Hainan, China, 2007. IEEE Computer Society Volume 4:288-292, August 2007. [\[original\]](#)

Refereed Workshop Publications

- . **Hongyu Su**, Aristides Gionis, Juho Rousu. Extended abstract: Structured Prediction of Network Response. In *the ECML 2014 workshop of Multi-Target Prediction*.
- . **Hongyu Su**, Juho Rousu. Multilabel Classification via Random Graph Labeling. In *the 5th International Conference on Artificial Intelligence and Statistics (AISTATS 2012)*.
- . **Hongyu Su**, Juho Rousu. Random Graph Ensembles in Multilabel Classification. In *the ICML 2012 Workshop of Object, Functional and Structured data: towards Next Generation Kernel-based Methods*. [\[original\]](#)
- . **Hongyu Su**, Markus Heinonen, Juho Rousu. Multilabel prediction of drug activity. In *the 4th International Workshop on Machine Learning in Systems Biology (MLSB 2010)*, MLSB:67-70, 2010. [\[original\]](#)
- . **Hongyu Su**, Markus Heinonen, Juho Rousu. Multilabel Classification of Drug-like Molecules via Max-Margin Conditional Random Fields. In *Proceedings of the 5th European Workshop on Probabilistic Graphical Models (PGM 2010)*, HIIT:265-273, 2010. [\[original\]](#)

Reviews

- . The 29th Conference on Advances in Neural Information Processing Systems (**NIPS 2015**).
- . IEEE Transactions on Knowledge and Data Engineering (**TKDE**).
- . IEEE Transactions on Neural Networks and learning Systems (**TNNLS**).
- . The 6th ACM International Conference on Web Search and Data Mining (**WDSM 2013**).
- . The 26th Conference on Advances in Neural Information Processing Systems (**NIPS 2012**).

Research Visits

- . **Prof. Mario Marchand**, Laval University, Quebec City **2014.12**
- . **Prof. Jinzhi Lei**, Tsinghua University, Beijing **2014.06**
- . **Prof. John Shawe-Taylor**, University College London, London **2014.03**
- . **Dr. Wei Bian**, University of Technology, Sydney **2013.11**

Supervision of Master Thesis

- . BSc. Jane Brodie, Community detection for large-scale metagenomics data analysis **2015 - Now**
- . BSc. Jinmin Lei, Graph kernels and multiple kernel learning for PPI prediction **2014 - Now**
- . MSc. Nicole Althermeler, Large-scale metagenomics data analysis **2011 - 2013**