

Lu, Kuang-Chen

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EDUCATION

Indiana University , Indiana, USA	May 2020
<i>Master of Science in Computer Science</i>	GPA 4.0/4.0
Shanghai Jiao Tong University , Shanghai, China	June 2018
<i>Bachelor of Science in Biotechnology (Bioinformatics Pioneer Class)</i>	GPA 3.3/4.0

PUBLICATIONS

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- Lu, Kuang-Chen, Weixi Ma, and Daniel P. Friedman. "Towards a miniKanren with fair search strategies." In Proceedings of the 2019 miniKanren and Relational Programming Workshop, p. 1. 2019.
 - Hu, Zhiqiang, Chen Sun, Kuang-chen Lu, Xixia Chu, Yue Zhao, Jinyuan Lu, Jianxin Shi, and Chaochun Wei. "EUPAN enables pan-genome studies of a large number of eukaryotic genomes." *Bioinformatics* 33, no. 15 (2017): 2408-2409.
 - Sun, Chen, Zhiqiang Hu, Tianqing Zheng, Kuangchen Lu, Yue Zhao, Wensheng Wang, Jianxin Shi et al. "RPAN: rice pan-genome browser for ~ 3000 rice genomes." *Nucleic acids research* 45, no. 2 (2016): 597-605.

RESEARCH EXPERIENCES

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| Department of Computer Science, SICE, Indiana University , Indiana, USA | Sept. 2019 – Oct. 2019 |
| <i>Hypercoercions and a Framework for Equivalence of Cast Calculi</i> | |
| <ul style="list-style-type: none">• Designed the Lazy D hypercoercions, a new cast representation, which has a structurally recursive composition and a more compact memory representation• Developed a framework for proving the correctness of some cast representations• Coauthored (as the first author) a paper submitted to the Workshop of Gradual Typing | |
| Department of Computer Science, SICE, Indiana University , Indiana, USA | Jan. 2019 – Oct. 2019 |
| <i>Type Inference for Grift, a Gradually Typed Language</i> | |
| <ul style="list-style-type: none">• Designed and implemented an algorithm that improves the precision of type annotations of source programs• Computed inferred type with the join operator on a lattice determined by a subset of the subtyping relation | |
| School of Software Engineering, SJTU , Shanghai, China | Mar. 2017 – Oct. 2017 |
| <i>Transformation from Context-Free Grammar to Automata</i> | |
| <ul style="list-style-type: none">• Improved an algorithm transforming a CFG to a FA while maintaining their Parikh images• Noticed the output FA was not a general graph, but has special structure feature• Reduced the algorithm's asymptotic time complexity with a special representation of FA | |
| Lab of Computational Genomics and Metagenomics, SJTU , Shanghai, China | May. 2016 – Aug. 2018 |
| <i>Visualize Phylogenetic Trees on Web Pages</i> | |
| <ul style="list-style-type: none">• Developed a JavaScript library for visualizing phylogenetic trees on web pages• Provided a GUI for configuring layout, color scheme, and functionality• Programming Languages & Technologies: JavaScript, SVG | |
| Lab of Computational Genomics and Metagenomics, SJTU , Shanghai, China | Sept. 2016 – Oct. 2016 |
| <i>Eukaryotic Pan-genome Analysis Toolkit (EUPAN)</i> | |
| <ul style="list-style-type: none">• Enabled EUPAN to work with one more supercomputer workload managers, SLURM• Cooperated with core developers to update documentation accordingly• Coauthored a paper about the EUPAN project | |
| Lab of Computational Genomics and Metagenomics, SJTU , Shanghai, China | Mar. 2015 – June 2016 |
| <i>RPAN: Rice Pan-genome Browser</i> | |
| <ul style="list-style-type: none">• Developed a key component to help users finding species of interest using evolutionary relationship information• Cooperated closely with several co-workers to build, test, debug, and document the browser• Programming Languages & Technologies: JavaScript, SVG, PHP, Node.js• Coauthored a paper about the RPAN project | |

TEACHING EXPERIENCES

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- Fall 2019: Programming Languages (C311/B521/A596), Indiana University
 - Spring 2019: Programming Languages (C311/B521/A596), Indiana University

AWARDS

- PLMW@ICFP'19 Travel Scholarship
- Oregon Programming Languages Summer School (OPLSS) 2019 Fellowship
- Racket Week 2019 Financial Aid

SERVICE

- Student Volunteer at International Conference on Functional Programming (ICFP)
- Committee of the 2018–2019 Preparing Future Faculty Conference at Indiana University
- Volunteer teaching at a primary school in Henan, China

SKILLS

- Proof Assistants: Agda, Coq
- Programming Languages: Racket, Scheme, Java, Python, JavaScript, R, C