

# HANFEI YU

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## RESEARCH INTERESTS

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My research interests lie in **Cloud Computing** and **Machine Learning**. Specifically, I'm focusing on applying learning techniques to improve **serverless computing** and building serverless systems for machine learning training/serving.

## EDUCATION

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<b>Louisiana State University, Baton Rouge, USA</b> Doctor of Philosophy in Computer Science	Sep 2021 - Present
<b>University of Washington, Tacoma, USA</b> Master in Computer Science and Systems <i>GPA: 3.96/4.0</i>	Sep 2019 - Feb 2021
<b>Shanghai Jiao Tong University, Shanghai, China</b> Bachelor in Electronic Engineering	Sep 2015 - July 2019

## WORK EXPERIENCE

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<b>Louisiana State University, Baton Rouge, USA</b> <i>Research Assistant</i> IntelliSys Lab	June 2021 - Present
<b>Louisiana State University, Baton Rouge, USA</b> <i>Teaching Assistant</i> <ul style="list-style-type: none"><li>· CSC 4501 Computer Networks, CSC 3501 Computer Organization &amp; Design, CSC 3102 Advanced Data Structures and Algorithms Analysis, CSC 2259 Discrete Structures, CSC 1350 Introduction to Computer Science</li></ul>	Jan 2020 - June 2020
<b>University of Washington, Tacoma, USA</b> <i>Research Assistant</i> <ul style="list-style-type: none"><li>· Cloud and Distributed Systems (CDS) Research Lab</li></ul>	Sep 2020 - Jan 2021
<b>University of Washington, Tacoma, USA</b> <i>Teaching Assistant</i> <ul style="list-style-type: none"><li>· TCSS 305 Programming Practicum, TCSS 422 Operating Systems</li></ul>	Jan 2020 - June 2020
<b>Intel, Shanghai, China</b> <i>Asia-Pacific Research &amp; Development Ltd</i> <i>Software Developer Intern, UEFI-BIOS Development Group</i> <ul style="list-style-type: none"><li>· Contributed to the development of a UEFI Driver, which works cross-platform on Windows and Linux. The driver filters, extracts, and analyzes network packets by leveraging an open-source library called PCAP. I also helped implement and test new features of the driver.</li><li>· Wrote Shell/Python scripts to enable automatic driver installation, dependency collection, and product testing using internal tools.</li></ul>	Aug 2018 - Feb 2019

## PUBLICATIONS

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### **Cheaper and Faster: Distributed Deep Reinforcement Learning with Serverless Computing**

Hanfei Yu, Jian Li, Yang Hua, Xu Yuan, Hao Wang

*Thirty-Eighth AAAI Conference on Artificial Intelligence (AAAI 2024)*

### **RainbowCake: Mitigating Cold-starts in Serverless with Layer-wise Container Caching and Sharing**

Hanfei Yu, Rohan Basu Roy, Christian Fontenot, Devesh Tiwari, Jian Li, Hong Zhang, Hao Wang, Seung-Jong Park

*ACM International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS 2024)*

### **Libra: Harvesting Idle Resources Safely and Timely in Serverless Clusters**

Hanfei Yu, Christian Fontenot, Hao Wang, Jian Li, Xu Yuan, and Seung-Jong Park

*ACM International Symposium on High-Performance Parallel and Distributed Computing (HPDC 2023)*

### **Accelerating Serverless Computing by Harvesting Idle Resources**

Hanfei Yu, Hao Wang, Jian Li, Xu Yuan, Seung-Jong Park

*ACM Web Conference (WWW 2022)*

### **FaaSRank: Learning to Schedule Functions in Serverless Platforms**

Hanfei Yu, Athirai A. Irissappane, Hao Wang, Wes J. Lloyd

*IEEE International Conference on Autonomic Computing and Self-Organizing Systems (ACSOS 2021)*

### **FaaSRank: A Reinforcement Learning Scheduler for Serverless Function-as-a-Service Platforms**

Hanfei Yu

*Master Thesis, University of Washington*

### **Enhancing Observability of Serverless Computing with the Serverless Application Analytics Framework**

Robert Cordingly, Navid Heydari, Hanfei Yu, Varik Hoang, Zohreh Sadeghi, Wes Lloyd

*ACM/SPEC International Conference on Performance Engineering (ICPE 2021)*

### **The Serverless Application Analytics Framework: Enabling Design Trade-off Evaluation for Serverless Software**

Robert Cordingly, Hanfei Yu, Varik Hoang, Zohreh Sadeghi, David Foster, David Perez, Rashad Hatchett, Wes Lloyd

*International Workshop on Serverless Computing (WoSC 2020)*

### **Leveraging GPT-2 for Classifying Spam Reviews with Limited Labeled Data via Adversarial Training**

Athirai A. Irissappane, Hanfei Yu, Yankun Shen, Anubha Agrawal, Gray Stanton

*arXiv preprint*

### **Implications of Programming Language Selection for Serverless Data Processing Pipelines**

Robert Cordingly, Hanfei Yu, Varik Hoang, David Perez, David Foster, Zohreh Sadeghi, Rashad Hatchett, Wes J Lloyd

*IEEE International Conference on Cloud and Big Data Computing (CBDCOM 2020)*

## ACADEMIC SERVICES

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Journal of Systems Architecture (JSA), Reviewer, 2023

IEEE Transactions on Cloud Computing (TCC), Reviewer, 2023

IEEE Global Communications Conference (GLOBECOM), Reviewer, 2023  
European Conference on Artificial Intelligence (ECAI), Reviewer, 2023  
IEEE Transactions on Parallel and Distributed Systems (TPDS), Reviewer, 2023  
EAI International Conference on Ad Hoc Networks (AdHocNets), Reviewer, 2021