Jingchang Sun

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Education

Tsinghua University Sep 2016 - June 2021 (expected)

M.S. in Computer Science, Institute for Interdisciplinary Information Sciences (IIIS)

Beijing

- Adviser: Prof. Pingzhong Tang, Thomas Moscibroda
- Research Area: Blockchain, Network Science, Machine Learning

Sichuan University Sep 2012 - June 2016

B.S. in Computer Science, College of Computer Science

Chengdu

- GPA: 3.6/4.0 (Top 2% of Department)

Researches & Publications

Games of Miners

First author. Accepted by AAMAS'2020 (A-level-conf. in IIIS list). Patent pending.

- Derived closed-form Nash and Stackelberg equilibria for cryptocurrency mining game;
- Showed optimal mining strategies and the effect on blockchain system security. (PDF)

Nebulas Technical White Paper

Core contributor to the major technical report of a cutting-edge public blockchain. Open in July, 2017.

- Proposed and evaluated ranking algorithms for blockchain addresses based on centrality;
- Applied the proposed ranking algorithms on blockchain consensus, searching and recommendation systems. (PDF)

Algorithms for Computing the WCRT bound of OpenMP Task Systems with Conditional Branches

Third author. Accepted by IEEE TC (A-level-journal in IIIS list)

- Developed tools to generate and visualize task graphs for both realistic and artificial OpenMP source programs.

Integer Programming Approach for Schedulability of Sporadic Real-Time Systems

Second author. Published in Journal of Software (2017)

- Solved MIP formation of real-time system schedulability problem by LP relaxations;

Projects & Experiences

Bing Ads Next Generation Billing System Microsoft

- Redesigned config manager with dynamic updating; Developed services circuit breakers. May 2020 - Aug 2020
- Designed UGC plagiarism detection pipeline, achieving nearly SOTA performance

Reliable Luxury Traceability Blockchain (patent pending) TuringSense

- Designed DApp to identify, trace, and trade luxuries, developed websites & smart contracts. Sep 2019 - Dec 2019
- Studied real object identification based on microscope picture and SIFT. (demo)

Crypto-asset Graph Data Analysis Microsoft Research

- Collected Ethereum blockchain data and built multiple user/transaction/call networks; Oct 2017 - Feb 2018
- Computed measurements of networks and analyze users' behavior using GNN models.

PrePer: Characterizing Student Performance via Large-scale WiFi Networks Tsinghua University

- Collected campus WiFi logs and built pipelines to analyze large-scale data; Nov 2016 - May 2017
- Predicted student behaviors using decision trees and provided helpful insights.

Etherlend — A Decentralized Rotating Savings and Credit Association (A DeFi App) Tsinghua University

- Led the project, developed smart contracts and the Android App. (demo) Nov 2016 - Dec 2016

Fingertip — A Heart Rate Monitor App Sichuan University

- Led the development and designed signal processing algorithms. (demo) Jan 2016 - May 2016

Awards

National Scholarship & First-Class Scholarship Nov 2014

First & Second Prize of the 16th National Robot Competition July 2014

Skills

Language Proficiency: TOEFL: 105/120 | GRE: 318/340 | CET6: 555/710

Programming: Python, C, Java, C#, Scala, MATLAB, Mathematica, R, Gurobi, Go, Solidity, Swift

孙景昶

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教育经历

清华大学 2016/09 - 2021/06 (预期毕业时间)

计算机科学与技术专业, 硕士研究生, 交叉信息研究院 (IIIS)

北京

- 导师: 唐平中 教授， Thomas Moscibroda 教授
- 研究领域: 区块链, 网络科学, 机器学习

四川大学 2012/09 - 2016/06

计算机科学与技术专业, 本科, 计算机学院

成都

- GPA: 3.6/4.0 (专业前2%)

研究与发表

Games of Miners

第一作者. 被AAMAS'2020接收 (IIIS列表A类会议). 相关专利申请中

- 推导并证明了加密货币挖矿博弈的Nash和Stackelberg均衡;
- 给出最优挖矿策略以及研究了对区块链系统安全性的影响. (PDF)

星云链技术白皮书

知名公链白皮书核心作者. 全文公开于2017年7月

- 提出并评估了基于复杂网络中心性测度的区块链系统地址排序算法;
- 研究了地址排序算法在区块链共识、搜索和推荐系统上的应用. (PDF)

Algorithms for Computing the WCRT bound of OpenMP Task Systems with Conditional Branches

第三作者. 被《IEEE TC》接收 (IIIS列表A类期刊)

- 基于LLVM设计开发了为真实OpenMP源程序生成任务图的工具.

Integer Programming Approach for Schedulability of Sporadic Real-Time Systems

第二作者. 发表于《软件学报》(2017)

- 利用线性松弛求解了实时系统可调度性问题的混合整数规划模型; 结合Gurobi实现了更快的调度算法.

项目与经历

下一代必应广告计费系统 微软互联网工程院

- 为配置管理模块添加在线更新和环境分隔功能；设计开发服务断路器。 2020/05 - 2020/08

高可靠奢侈品溯源链 (相关专利申请中) 图灵深视

- 设计了奢侈品认证、溯源、交易上链系统，负责网站前后端开发以及智能合约编写; 2019/09 - 2019/12
- 研究了基于微观图片和SIFT算法的可靠实物数字化认证方案. (demo)

数字资产图数据分析 微软研究院

- 收集以太坊链上数据，使用无向图/有向图/超图等多种方式构建用户/交易/调用网络; 2017/10 - 2018/02
- 计算多种网络中心性和聚集性等指标；分析以太坊用户使用加密数字资产习惯，预测投资行为。

PrePer: 通过大规模WiFi网络分析教育数据 清华大学

- 持续收集多种清华校园无线网络日志，并使用Spark等工具进行大规模数据分析； 2016/11 - 2017/05
- 定义多种数据特征，评价课堂质量，并使用决策树等模型预测教育行为，给出有效建议；

Etherlend — 去中心化的金融借贷应用 (开放式课程项目) 清华大学

- 带领项目开发，编写了智能合约和Android App. (demo) 2016/11 - 2016/12

十指连心 — 心率测量移动应用 (国家级大学生创新创业项目) 四川大学

- 带领开发工作，设计了数字信号处理算法实现手机摄像头测量心率。(demo) 2016/01 - 2016/05

获奖情况

国家奖学金 & 校一等奖学金 2014/11

第16届全国机器人大赛一等奖 2014/07

技能

外语水平: 托福: 105/120 | GRE: 318/340 | 大学英语六级: 555/710

编程语言: Python, C, Java, C#, Scala, MATLAB, Mathematica, R, Gurobi, Go, Solidity, Swift