# Abhilash Kancharla

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## Summary

Dr. Kancharla is currently working as an Assistant Teaching Professor in Computer Science department at The University of Tampa. His research interests include areas related to Blockchain, Cryptocurrency, Bigdata and Distributed Computing, with secondary interests in queueing algorithms. Prior to his current work at University of Tampa, Dr. Kancharla has worked with Oklahoma State University as an Adjunct Instructor wherein, he obtained his Masters and Doctorate degree in Computer Science. He has 3+ years of experience in working in IT industry with Capgemini Pvt. Ltd. He enjoys playing video games, designing creative mobile applications on Android and iOS during his free time. Dr. Kancharla is currently writing a book titled - Blockchain Essentials which is set to publish in and around early Spring '24.

## Education

- **Ph.D.**, 2020, Oklahoma State University, Stillwater
  Dissertation: "A study on high-performance and dependable blockchain-based computing"
  Committee: Dr. Nohpill Park, Dr. Chris Crick, Dr. Akbas Esra, Dr. Kim Jonghoon
- **M.S.**, 2017, Oklahoma State University, Stillwater
  Thesis: "Big Streaming Data Buffering Optimization"
  Advisor: Dr. Nohpill Park.
- **B.Tech**, 2009, Jawaharlal Nehru Technological University, Hyderabad, India
  Thesis: "RFID based voting machine"

## Professional Experience

- Assistant Teaching Professor — University of Tampa, Aug 2021 – Present
- Adjunct Instructor — Oklahoma State University, Jan 2021 – Aug 2021
- Frontend developer — BPU Holdings Inc. (Internship), May 2019 - Dec 2019
- Blockchain developer — Novi Inc. (Internship), May 2018 - Dec 2018
- Mainframe tester — Capgemini Pvt. Ltd,, June 2010 – Nov 2013

## Courses taught

- Computer Organization and Architecture - CSC 210 — Fall '23, Fall '22
- Data Structures - CSC 201 — Summer '23
- Operating Systems and Systems Programming - CSC 220 — Spring '23
- Introduction to Computer Science using Python - CSC 101 — Fall '23, Spring '23, Fall '22, Spring '22, Fall '21

- Introduction to Computer Science using Python - CSC 102 — Fall '23, Spring '23, Fall '22
- Computer Science I using Java — Summer '21, Spring '21
- Computer Science II using Java — Summer '21, Spring '21

## Publications and Research

- Writing a book titled - Blockchain Essentials with Vibrant Publishers. The book is directed to be a basic guide for readers without any prior knowledge of blockchain. The book is set to be published in Early Spring'24.
- J. Seol, J. Kim and A. Kancharla. "DRL Model for Distributed Agent-based IoT on Multi-Access Edge Computing for Accident Forecast", In: *BCD-2023: The 8th IEEE/ACIS International Conference on Big Data, Cloud Computing, and Data Science Engineering Hochimin City, Viet Nam, December 14-16, 2023.* Manuscript submitted for publication
- J. Dorrell, A Kancharla, and M Ambrosia. "Green Crypto Mining:A Quantitative Analysis of theProfitability of Bitcoin Mining Using Excess Wind Energy", In: *The Journal of Energy and Development*, Volume 48. Manuscript accepted, Journal to be published by end of Fall '23.
- Organization Committee and Technical Program Committee member for The First International Workshop on Decentralized AI using Blockchain (DAIBC2022) held on September 5-7, 2022, San Antonio, Texas. Workshop is colocated with The Fourth International Conference on Blockchain Computing and Application (BCCA 2022).
- J. Seol, J. Ke, S. Joshi, N. Park, and A. Kancharla. "A Bivariate Performance Model across On- and Off-Chain in A NFT (Non-Fungible Token) Chain". In: *2022 Fourth International Conference on Blockchain Computing and Applications (BCCA)*. Sept. 2022, pp. 159–166. DOI: 10.1109/BCCA55292.2022.9921973
- Zuqiang Ke, Jongho Seol, Abhilash Kancharla, and Nohpill Park. "Performance Modeling and Assurance for Cross Chain". In: *2022 Fourth International Conference on Blockchain Computing and Applications (BCCA)*. Sept. 2022, pp. 305–311. DOI: 10.1109/BCCA55292.2022.9922037
- Abhilash Kancharla, Jongho Seol, Nohjin Park, Tao Feng, and Nohpill Park. "A Hybrid Chain and A Double-Tuple Variable Bulk Arrival and Static Bulk Service Model". In: *2021 IEEE International Conference on Blockchain and Cryptocurrency (ICBC)*. May 2021, pp. 1–2. DOI: 10.1109/ICBC51069.2021.9461102
- Abhilash Kancharla, Jongho Seol, Hye-Young Kim, and Nohpill Park. "Distributed Decentralized Chain (DDC) and k-Queue Variable Bulk Arrival and Static Bulk Service Model". In: *Proceedings of the 3rd ACM International Symposium on Blockchain and Secure Critical Infrastructure*. BSCI '21. Virtual Event, Hong Kong: Association for Computing Machinery, 2021, pp. 37–45. ISBN: 9781450384001. DOI: 10.1145/3457337.3457840. URL: https://doi.org/10.1145/3457337.3457840
- Nohpill Park, Abhilash Kancharla, and Hye-Young Kim. "A Real-Time Chain and Variable Bulk Arrival and Variable Bulk Service (VBAVBS) Model with $\lambda$F". in: *Applied Sciences* 10.10 (2020). ISSN: 2076-3417. DOI: 10.3390/app10103651. URL: https://www.mdpi.com/2076-3417/10/10/3651
- Abhilash Kancharla. "A Study on High-Performance and Dependable Blockchain-Based Computing". English. Copyright - Database copyright ProQuest LLC; ProQuest does not claim copyright in the individual underlying works; Last updated - 2022-02-28. PhD thesis. 2020, p. 151. ISBN: 9798535568645. URL: http://argo.library.okstate.edu/login?url=https://www.proquest.com/dissertations-theses/study-on-high-performance-dependable-blockchain/docview/2572622927/se-2?accountid=4117
- Abhilash Kancharla, Hyeyoung Kim, and Nohpill Park. "Transaction sampling algorithms for real-time crypto block dependability". In: *International Journal of Big Data Intelligence* 7.3 (2020), pp. 127–136. DOI: 10.1504/IJBDI.2020.109671. eprint: https://www.inderscienceonline.com/doi/pdf/10.1504/IJBDI.2020.109671. URL: https://www.inderscienceonline.com/doi/abs/10.1504/IJBDI.2020.109671

- Abhilash Kancharla, Zuqiang Ke, Nohpill Park, and Hyeyoung Kim. "Hybrid Chain And Dependability". In: *Proceedings of the 2nd ACM International Symposium on Blockchain and Secure Critical Infrastructure*. BSCI '20. Taipei, Taiwan: Association for Computing Machinery, 2020, pp. 204–209. ISBN: 9781450376105. DOI: 10.1145/3384943.3409439. URL: https://doi.org/10.1145/3384943.3409439

- Jongho Seol, Abhilash Kancharla, Zuqiang Ke, Hyeyoung Kim, and Nohpill Park. "A Variable Bulk Arrival and Static Bulk Service Queueing Model for Blockchain". In: *Proceedings of the 2nd ACM International Symposium on Blockchain and Secure Critical Infrastructure*. BSCI '20. Taipei, Taiwan: Association for Computing Machinery, 2020, pp. 63–72. ISBN: 9781450376105. DOI: 10.1145/3384943.3409423. URL: https://doi.org/10.1145/3384943.3409423

- Abhilash Kancharla, Jongho Seol, Nohpill Park, and Hyeyoung Kim. "Slim Chain and Dependability". In: *Proceedings of the 2nd ACM International Symposium on Blockchain and Secure Critical Infrastructure*. BSCI '20. Taipei, Taiwan: Association for Computing Machinery, 2020, pp. 180–185. ISBN: 9781450376105. DOI: 10.1145/3384943.3409435. URL: https://doi.org/10.1145/3384943.3409435

- Abhilash Kancharla, Jongho Seol, Nicole Park, Indy Park, and Nohpill Park. "Dependable Industrial Crypto Computing". In: *2019 IEEE 28th International Symposium on Industrial Electronics (ISIE)*. June 2019, pp. 1225–1232. DOI: 10.1109/ISIE.2019.8781245

- Jongho Seol, Abhilash Kancharla, Nicole Park, Nohpill Park, and Indy Nohjin Park. "The Dependability of Crypto Linked Off-chain File Systems in Backend Blockchain Analytics Engine". In: *International Journal of Networked and Distributed Computing* 6 (4 2018), pp. 210–215. ISSN: 2211-7946. DOI: https://doi.org/10.2991/ijndc.2018.6.4.3. URL: https://doi.org/10.2991/ijndc.2018.6.4.3

- Jongyeop Kim, Abhilash Kancharla, Jongho Seol, Noh-Jin Park, and Nohpill Park. "Optimized Common Parameter Set Extraction by Benchmarking Applications on a Big Data Platform". In: *2018 19th IEEE/ACIS International Conference on Software Engineering, Artificial Intelligence, Networking and Parallel/Distributed Computing (SNPD)*. June 2018, pp. 1–7. DOI: 10.1109/SNPD.2018.8441059

- Abhilash Kancharla, Jongyeop Kim, Noh-Jin Park, and Nohpill Park. "Big Streaming Data Buffering Optimization". In: *2016 4th Intl Conf on Applied Computing and Information Technology/3rd Intl Conf on Computational Science/Intelligence and Applied Informatics/1st Intl Conf on Big Data, Cloud Computing, Data Science Engineering (ACIT-CSII-BCD)*. Dec. 2016, pp. 218–223. DOI: 10.1109/ACIT-CSII-BCD.2016.050

- Abhilash Kancharla. "Big Streaming Data Sampling and Optimization". English. Copyright - Database copyright ProQuest LLC; ProQuest does not claim copyright in the individual underlying works; Last updated - 2021-08-03. MA thesis. 2017, p. 64. ISBN: 978-0-438-03953-7. URL: http://argo.library.okstate.edu/login?url=https://www.proquest.com/dissertations-theses/big-streaming-data-sampling-optimization/docview/2053998888/se-2?accountid=4117

## Public Service

- Advisor for the Computer Science club at University of Tampa.

- Developed an iOS/Android application for a non-profit organization - Blue Green Connections[1]. The application titled - "FGC Hope Spot" is a guide to species within the Florida Gulf Coast Hope Spot and informs tips on keeping our Hope Spot healthy. The application is currently on iOS App Store[2].

- Electronics Editorial Office. "Acknowledgment to the Reviewers of Electronics in 2022". In: *Electronics* 12.3 (2023). ISSN: 2079-9292. DOI: 10.3390/electronics12030686. URL: https://www.mdpi.com/2079-9292/12/3/686

- Mathematics Editorial Office. "Acknowledgment to the Reviewers of Mathematics in 2022". In: *Mathematics* 11.3 (2023). ISSN: 2227-7390. DOI: 10.3390/math11030643. URL: https://www.mdpi.com/2227-7390/11/3/643

[1] https://www.bluegreenconn.org/
[2] https://apps.apple.com/xk/app/fgc-hope-spot/id1635759363

- Sustainability Editorial Office. "Acknowledgment to the Reviewers of Sustainability in 2022". In: *Sustainability* 15.5 (2023). ISSN: 2071-1050. DOI: 10.3390/su15053932. URL: https://www.mdpi.com/2071-1050/15/5/3932
- Applied Sciences Editorial Office. "Acknowledgment to Reviewers of Applied Sciences in 2021". In: *Applied Sciences* 12.4 (2022). ISSN: 2076-3417. DOI: 10.3390/app12041981. URL: https://www.mdpi.com/2076-3417/12/4/1981
- Symmetry Editorial Office. "Acknowledgment to Reviewers of Symmetry in 2021". In: *Symmetry* 14.2 (2022). ISSN: 2073-8994. DOI: 10.3390/sym14020264. URL: https://www.mdpi.com/2073-8994/14/2/264
- Electronics Editorial Office. "Acknowledgment to Reviewers of Electronics in 2021". In: *Electronics* 11.3 (2022). ISSN: 2079-9292. DOI: 10.3390/electronics11030407. URL: https://www.mdpi.com/2079-9292/11/3/407
- Processes Editorial Office. "Acknowledgment to Reviewers of Processes in 2020". In: *Processes* 9.2 (2021). ISSN: 2227-9717. DOI: 10.3390/pr9020211. URL: https://www.mdpi.com/2227-9717/9/2/211
- IJGI Editorial Office. "Acknowledgement to Reviewers of IJGI in 2020". In: *ISPRS International Journal of Geo-Information* 10.2 (2021). ISSN: 2220-9964. DOI: 10.3390/ijgi10020049. URL: https://www.mdpi.com/2220-9964/10/2/49
- Applied Sciences Editorial Office. "Acknowledgment to Reviewers of Applied Sciences in 2020". In: *Applied Sciences* 11.3 (2021). ISSN: 2076-3417. DOI: 10.3390/app11031108. URL: https://www.mdpi.com/2076-3417/11/3/1108