

Ei Pa Pa Pe Than

Coordinates

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Research Interest and Approach

My research focuses on computer-supported collaborative work (CSCW), science and technologies studies (STS), and critical human-computer interaction (HCI), aiming to design systems for effective collaboration and coordination. More specifically, my work investigates how teams work together in various organizational settings ranging from time-bounded events or hackathons, collocated and/or distributed, scientific, education, innovation, open source, and commercial, and how technology supports them, and identifies practices to design the future coordinated work.

I use empirical, mixed-methods, case study, research approach, employing ethnography (interviews and observations), questionnaire, and archival analysis (collection and analysis of logs and trace data with Python, R, and Dedoose).

Education

2017–2020 Carnegie Mellon University, Pittsburgh, PA, USA.

Postdoctoral Research Fellow

Research: Large scale collaboration and coordination in time-bounded events (hackathons, datathons, etc.) for science, innovation, learning, and community building, and collaborative writing on GitHub.com.

Advisor: James D. Herbsleb, Professor, School of Computer Science and Head, Software and Societal Systems Department, Carnegie Mellon University, USA.

2010–2016 Nanyang Technological University, Singapore.

Ph.D.

Dissertation: Investigating user-centered human computation games: the roles of perceived enjoyment and its antecedents ([doi](#) | [url](#))

Advisors: Dion Hoe-Lian Goh, Professor and Associate Chair (Graduate and Continuing Education), and Chei Sian Lee, Associate Professor and Associate Chair (Faculty), Wee Kim Wee School of Communication and Information, Nanyang Technological University, Singapore.

2008–2009 Nanyang Technological University, Singapore.

M.Sc. (Information Systems)

2001–2005 University of Computer Studies, Yangon, Myanmar.

B.C.Sc (Hons) (Equivalent to B.Sc (Hons) in Computer Science)

Employment Experience

2017–2020 **Software and Societal Systems Department** (formerly Institute for Software Research), **School of Computer Science, Carnegie Mellon University, Pittsburgh, PA, USA.**

Postdoctoral Research Fellow

Research: Large scale collaboration and coordination in time-bounded events (hackathons, datathons, etc.) for science, innovation, learning, and community building, and collaborative writing on GitHub.com.

Advisor: James D. Herbsleb, Professor, School of Computer Science and Head, Software and Societal Systems Department, Carnegie Mellon University, USA.

2015–2016 **Wee Kim Wee School of Communication and Information, Nanyang Technological University, Singapore.**

Research Associate and Adjunct Lecturer (2015–2016)

Research: Investigate the motivations, uses, and perceptions differences between game and non-game applications for music tagging preloaded on mobile devices and situated public displays

Advisor: Dion Hoe-Lian Goh, Professor and Associate Chair (Graduate and Continuing Education), Wee Kim Wee School of Communication and Information, Nanyang Technological University, Singapore.

2009–2010 **NCS Pte Ltd** (formerly National Computer Systems), **Singapore.**

Applications Consultant

Project: Maintenance and enhancement of a web-based outpatient administrative system (OAS) developed with Microsoft .NET Framework and SQL server and deployed in a network of hospitals, speciality centers and polyclinics managed by Singapore Health Services (SingHealth) under Ministry of Health Singapore. My main responsibilities include monitoring of the daily transactions and batch processing of OAS's accounting module, liaising with the hospital's finance department, management of change requests, features development, system migration, and on-site visits.

2005–2007 **University of Computer Studies, Yangon, Myanmar.**

Trainee tutor

Publications

Peer-Reviewed Journals

1. Pe-Than, E.P.P., Nolte, A., Filippova, A., Bird, C., Scallen, S., & Herbsleb, J.D. (2022). Corporate Hackathons, How and Why? A Multiple Case Study of Motivation, Projects Proposal and Selection, Goal Setting, Coordination, and Outcomes. *Human–Computer Interaction*, 37, 281–313. Taylor & Francis. ([doi](#) | [pdf](#))
2. Pe-Than, E.P.P., Dabbish, L., and Herbsleb, J.D. (2021). Open Collaborative Writing: Investigation of the Fork-and-Pull Model. In *Proceedings of the ACM on Human Computer Interaction (PACMHCI)*, 5 (CSCW1), Article 137 (April 2021), 33 pages. ACM. ([doi](#) | [pdf](#))
3. Pe-Than, E.P.P., Nolte, A., Filippova, A., Bird, C., Scallen, S., and Herbsleb, J.D. (2018). Designing Corporate Hackathons With a Purpose. *IEEE Software*, 36 (1), 15–22. IEEE Computer Society. ([doi](#) | [pdf](#)) (**Runner-up for the 2019 Best Paper Award by IEEE Computer Society Publication Board**)
4. Nolte, A., Pe-Than, E.P.P., Filippova, A., Bird, C., Scallen, S., and Herbsleb, J.D. (2018). You Hacked and Now What?: - Exploring Outcomes of a Corporate Hackathon. In *Proceedings of the ACM on Human Computer Interaction (PACMHCI)*, 2 (CSCW), Article 129 (November 2018), 23 pages. ACM. ([doi](#) | [pdf](#))
5. Pe-Than, E.P.P., Goh, D.H.-L. and Lee, C.S. (2017). Does it matter how you play? The Effects of Collaboration and Competition Among Players of Human Computation Games. *Journal of the Association for Information Science and Technology (JASIST)*, 68 (8), 1823–1835. Wiley. ([doi](#) | [pdf](#))
6. Pe-Than, E.P.P., Goh, D.H-L, and Lee, C.S. (2017). Analyzing Crowdsourced Mobile Content: Do Games Make a Difference? *Journal of Information Science Theory & Practice (JISTA)*, 5 (2), 6–16. Published by Korea Institute of Science and Technology Information (KISTI). ([doi](#) | [pdf](#))
7. Goh, D. H-L, Pe-Than, E. P. P., and Lee, C. S. (2017). Perceptions of Virtual Reward Systems in Crowdsourcing Games. *Computers in Human Behavior*, Volume 70 (May 2017), 365–374. Elsevier. ([doi](#) | [pdf](#))
8. Pe-Than, E.P.P., Goh, D.H.-L. and Lee, C.S. (2015). Why Do People Play Human Computation Games? Effects of Perceived Enjoyment and Perceived Output Quality. *Aslib Journal of Information Management*, 67 (5), 592–612. Emerald Publishing. ([doi](#))
9. Pe-Than, E. P. P., Goh, D. H-L, and Lee, C.S. (2015) A Typology of Human Computation Games: An Analysis and a Review of Current Games. *Behaviour & Information Technology*, 34 (8), 809–824. Taylor & Francis. ([doi](#) | [pdf](#))
10. Pe-Than, E.P.P., Goh, D.H-L, and Lee, C.S. (2014). Making Work Fun: Investigating Antecedents of Perceived Enjoyment in Human Computation Games for Information Sharing. *Computers in Human Behavior*, 39 (C), 88–99. Elsevier. ([doi](#) | [pdf](#))

Peer-Reviewed Conferences

11. Pe-Than, E.P.P. and Herbsleb, J.D. (2019). Understanding Hackathons for Science: Collaboration, Affordances, and Outcomes. In: *Taylor, N., Christian-Lamb, C., Martin, M., Nardi, B. (eds) Information in Contemporary Society (iConference 2019), Lecture Notes in Computer Science, vol 11420*, pp. 27–37. Springer, Cham. ([doi](#) | [pdf](#))

12. Pe-Than, E.P.P., Dabbish, L., and Herbsleb, J.D. (2018). Collaborative writing on GitHub: A Case Study of a Book Project. In *Companion of the 2018 ACM Conference on Computer Supported Cooperative Work and Social Computing (CSCW '18 Companion)*, pp. 305–308. ACM, New York, NY, USA. ([doi](#) | [pdf](#) | [poster](#))
13. Pe-Than, E.P.P., Herbsleb, J.D., Nolte, A., Gerber, E., Fiore-Gartland, B., Chapman, B., Moser, A., and Wilkins-Diehr, N. (2018). The 2nd Workshop on Hacking and Making at Time-Bounded Events: Current Trends and Next Steps in Research and Event Design. In *Extended Abstracts of the 2018 CHI Conference on Human Factors in Computing Systems (CHI EA '18)*, paper W35, pp. 1–8. ACM, New York, NY, USA. ([doi](#) | [pdf](#) | [website](#))
14. Pe-Than, E.P.P., Goh, D.H.-L., Lee, C.S. (2017). Motivational Difference across Gameplay Mechanics: An Investigation in Crowdsourcing Mobile Content. In: Choemprayong, S., Crestani, F., Cunningham, S. (eds) *Digital Libraries: Data, Information, and Knowledge for Digital Lives (ICADL 2017), Lecture Notes in Computer Science*, vol 10647. Springer, Cham. ([doi](#))
15. Goh, D. H.-L., Pe-Than, E. P. P., Lee, C. S. and Chua, A.Y.K. (2017). Do Games Make a Difference in the Crowdsourcing of Mobile Content?. In S. Erdelez & N.K. Agarwal (Eds.), *Proceedings of the Association for Information Science and Technology (ASIS&T 2017)*, 54 (1), pp. 119–127. Wiley, Hoboken, NJ, USA. ([doi](#))
16. Goh, D. H.-L, Pe-Than, E.P.P., and Lee, C.S. (2016). Games for Crowdsourcing Mobile Content: An Analysis of Contribution Patterns. In *Proceedings of the 16th ACM/IEEE-CS on Joint Conference on Digital Libraries (JCDL '16)*, pp. 249–250. ACM, New York, NY, USA. ([doi](#))
17. Pe-Than, E.P.P., Goh, D.H.-L. and Lee, C.S. (2016). Personality, Motivations, and Information Quality: A Comparative Study across Games for Human Computation. In *Proceedings of the Association for Information Science and Technology (ASIS&T 2016)*, 53 (1), pp. 1-10. ([doi](#))
18. Goh, D.H.-L., Pe-Than, E.P.P. and Lee, C.S. (2016). Crowdsourcing Mobile Content through Games: An Analysis of Contribution Patterns. In *Proceedings of the Association for Information Science and Technology (ASIS&T 2016)*, 53 (1), pp. 1–10. ([doi](#))
19. Goh, D.H.-L., Pe-Than, E.P.P., Lee, C.S. (2015). An Investigation of Reward Systems in Human Computation Games. In: Kurosu, M. (eds) *Human-Computer Interaction: Interaction Technologies (HCI 2015), Lecture Notes in Computer Science*, vol 9170, pp. 596–607. Springer, Cham. ([doi](#))
20. Pe-Than, E.P.P., Goh, D.H.L., Lee, C.S. (2015). The Effects of Collaboration and Competition on Players' Perceptions in Human Computation Games. In: Allen, R., Hunter, J., Zeng, M. (eds) *Digital Libraries: Providing Quality Information (ICADL 2015), Lecture Notes in Computer Science*, vol 9469, pp. 246–251 Springer, Cham. ([doi](#))
21. Goh, D.H.L., Pe-Than, E.P.P., Lee, C.S. (2015). Investigating the Antecedents of Playing Games for Crowdsourcing Location-based Content. In: Allen, R., Hunter, J., Zeng, M. (eds) *Digital Libraries: Providing Quality Information (ICADL 2015), Lecture Notes in Computer Science*, vol 9469, pp. 52–63 Springer, Cham. ([doi](#))
22. Pe-Than, E.P.P., Goh, D.H.L., Lee, C.S. (2013). Playing Human Computation Games for Mobile Information Sharing: The Influence of Personality and Perceived Information Quality. In: Urs, S.R., Na, J.C., Buchanan, G. (eds) *Digital Libraries: Social Media and Community Networks (ICADL 2013), Lecture Notes in Computer Science*, vol 8279, pp. 147–156. Springer, Cham. ([doi](#))
23. Pe-Than, E.P.P., Goh, D.H.L., Lee, C.S. (2012). Enjoyment of a Mobile Information Sharing Game: Perspectives from Needs Satisfaction and Information Quality. In: Chen, H.H., Chowdhury, G.

- (eds) *The Outreach of Digital Libraries: A Globalized Resource Network: the 14the International Conference on Asian Digital Libraries (ICADL 2012), Lecture Notes in Computer Science*, vol 7634, pp. 126–135. Springer, Berlin, Heidelberg. ([doi](#))
24. Pe-Than, E.P.P., Goh, D. H.-L., and Lee, C.S. (2010). A Survey and Typology of Human Computation Games. In *Proceedings of the Ninth International Conference on Information Technology - New Generations (ITNG 2012)*, pp. 720–725. IEEE Computer Society. ([doi](#))

Technical reports

25. Pe-Than, E.P.P., and Nolte, A. (2018). The 2nd Workshop on Hacking and Making at Time-Bounded Events. *Technical Report CMU-ISR-18-109*, Carnegie Mellon University. ([pdf](#) | [website](#))

Posters

26. Pe-Than, E.P.P., Dabbish, L., and Herbsleb, J.D. (2019). Collaborative Writing at Scale: A Case Study of Two Open-Text Projects Done on GitHub. Presented at *the annual meeting of Human Computer Interaction Consortium: The Future of Work (HCIC '19)*, June 23–27, Pajaro Dunes, Watsonville, CA, USA. ([pdf](#) | [website](#))
27. Pe-Than, E.P.P., Dabbish, L., and Herbsleb, J.D. (2019). Collaborative Writing at Scale: A Case Study of Two Open-Text Projects Done on GitHub. Presented at *the 7th ACM Conference on Collective Intelligence 2019 (CI '19)*, June 13–14, Pittsburgh, PA, USA. ([url](#) | [pdf](#) | [website](#))
28. Pe-Than, E.P.P., Momcheva, I., Tolleud, E., and Herbsleb, J.D. (2019). Hackathons for Science, How and Why? Presented at *the 233rd Meeting of the American Astronomical Society*, AAS Meeting #233, id.459.11, January 6–10, Seattle, Washington, USA. ([url](#) | [pdf](#) | [website](#))
29. Powell, J., Hayden, L., Nolte, A., Herbsleb, J.D., Pe-Than, E.P.P., Wong, M., Kalyanam, R., Ellet, K., Pamidighantam, S., Traxler, K., and Cannon, A. (2018). An Analysis of the PEARC 2018 Science Gateways Community Institute Hackathon: Lessons Learned. Presented at *Gateways 2018 organized by the Science Gateways Community Institute (SGCI)*, July 22–26, Pittsburgh, PA, USA. ([doi](#) | [pdf](#) | [website](#))
30. Pe-Than, E.P.P., Nolte, A., Filippova, A., Bird, C., Scallen, S. and Herbsleb, J.D. (2018). An Empirical Study of Team Familiarity, Goal Setting, and Process in Time-Bounded Events. Presented at *the 13th Annual Interdisciplinary Network for Group Research Conference (INGRoup '18)*, July 18–21, Bethesda, Washington DC, USA. ([website](#))

Selected other papers

31. Alexander Nolte, Ei Pa Pa Pe-Than, Abasi-amefon Obot Affia, Chalalai Chaihirunkarn, Anna Filippova, Arun Kalyanasundaram, Maria Angelica Medina Angarita, Erik Trainer, and James D. Herbsleb. (2020). How to organize a hackathon -- A planning kit.
<https://arxiv.org/abs/2008.08025> ([doi](#) | [url](#) | [pdf](#) | [planning-kit](#))

Presentations

32. Pe-Than, E.P.P., Nolte, A., Filippova, A., Bird, C., Scallen, S., and Herbsleb, J.D. (2018). Designing Corporate Hackathons with a Purpose. *IEEE Software*, 36 (1), 15–22. Presented as journal first paper at the *27th ACM Joint European Software Engineering Conference and Symposium on*

the Foundations of Software Engineering (ESEC/FSE), August 26–30 2019, Tallinn, Estonia. ([doi](#) | [pdf](#) | [url](#) | [slides](#) | [website](#))

33. Pe-Than, E.P.P., Goh, D.H.-L. and Lee, C.S. (2017), Does it matter how you play? The Effects of Collaboration and Competition among Players of Human Computation Games. *Journal of the Association for Information Science and Technology (JASIST)*, 68 (8), 1823–1835. Presented at the 66th annual conference of the International Communication Association (ICA), June 9–13 2016, Fukuoka, Japan. ([doi](#) | [pdf](#) | [url](#) | [website](#))

Teaching

G=Graduate level; U=Undergraduate level; AY=Academic year; MTI=Mean teaching index.

Instructor	Nanyang Technological University, Singapore.
AY 2016/2017	CI6221 Information Visualization (G; MTI 80.83)
AY 2015/2016	CI6228 Managing Information Systems (G; MTI 88.54)
AY 2014/2015	IN9008 Digital Social Games for Organizations (U; MTI 71.86)

Teaching Assistant	Nanyang Technological University, Singapore.
AY 2013/2014	CS2008 Fundamentals of Research (U; MTI = 86.66)
AY 2013/2014	IN9006 Social Computing and Applications (G)
AY 2012/2013	CI6208 Research Methods and Data Analysis for Professional Practice (G)
AY 2012/2013	CI6222 Mobile & Ubiquitous Applications (G)
AY 2012/2013	H6723 Business and Management Sources & Services (G)

Trainee Tutor **University of Computer Studies, Yangon, Myanmar.**
AY 2006/2007 **Fundamentals of Data Structures (U)**
 Operating Systems (U)

Awards

- Runner-up for the 2019 Best Paper Award by IEEE Computer Society Publication Board (2020) ([doi](#) | [pdf](#))
 - NTU Research Scholarship (August 2010–July 2014)
 - NCS Service Excellence Award (NCS Singapore Health Services) (May 10, 2010)

Professional Activities

Reviewer

- ACM Conference on Computer-Human Interaction ([CHI](#)) 2017, 2018
 - ACM Conference on Computer-Supported Cooperative Work ([CSCW](#)) 2018
 - [iConference](#) 2019

- European Conference on Information Systems ([ECIS](#)) 2012, 2015
- International Conference on Asian Digital Libraries ([ICADL](#))
- The International Communication Association Annual Conference ([ICA](#)) 2017
- International Conference on Information Technology: New Generations (ITNG) 2012
- Journal of Systems and Software
- Journal of Information Science Theory and Practice ([JISTap](#))
- Aslib Journal of Information Management
- Cyberpsychology, Behavior, and Social Networking

Co-organizer

- World of Code (WoC) Hackathon, Carnegie Mellon University, Pittsburgh, PA, USA (November 1–3, 2019) ([website](#))
- Four hack days with NASA's Hubble Space Telescope (HST) team, Space Telescope Science Institute ([STScI](#)), Baltimore, MD, USA (March 2018– February 2019)
- Science Gateways Hackathon by the Science Gateways Community Institute ([SGCI](#)), collocated with PEARC18 Conference, Wyndham Grand Pittsburgh, PA, USA (July 23–27, 2018) ([website](#))
- The 2nd Workshop on Hacking and Making at Time-Bounded Events: Current Trends and Next Steps in Research and Event Design in conjunction with ACM CHI'18 conference, Palais des Congrès de Montréal, Montreal, Canada (April 22, 2018) ([website](#) | [report](#))

Volunteer

- CMU's School of Computer Science's 2020 Presidential Election's Voting Study Committee (2020)
- The 66th Annual Conference of the International Communication Association (ICA), Fukuoka, Japan (June 9–13, 2016) ([website](#))
- Graduate Admission Exercise of Wee Kim Wee School of Communication and Information (2011–2013)
- International Conference on Social Informatics (SocInfo 2011), Singapore Management University, Singapore (October 6–8, 2011)

Member

- Association for Computing Machinery (ACM)
- Special Interest Group on Computer-Human Interaction (ACM SIGCHI)

References

James Herbsleb

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Head, Software and Societal Systems Department
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Carnegie Mellon University
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Pittsburgh, PA 15213
United States of America

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Laura Dabbish

Professor, Human-Computer Interaction Institute and Heinz College
School of Computer Science
Newell-Simon Hall 3605
Carnegie Mellon University
5000 Forbes Avenue
Pittsburgh, PA 15213
United States of America

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Alexander Nolte

Assistant Professor, Software Engineering and Technology Cluster
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