

## List of All Publications

The list is sorted in reserved chronological order (by year). Paper links are provided (DOIs and own paper copies).

- [1] Ying Zhou, Miao Miao, Vlad Birsan, Oscar Chaparro, Shiyi Wei, and Andrian Marcus. Towards the automated identification of data constraints in software documents. In *the IEEE/ACM 47th International Conference on Software Engineering (ICSE'25)*, (under review), 2025.
- [2] Jake Zappin, Trevor Stalaker, Oscar Chaparro, and Denys Poshyvanyk. When quantum meets classical: Characterizing hybrid quantum-classical issues discussed in developer forums. In *the IEEE/ACM 47th International Conference on Software Engineering (ICSE'25)*, (under review), 2025.
- [3] Trevor Stalaker, Nathan Wintersgill, Oscar Chaparro, Laura A. Heymann, Massimiliano Di Penta, Daniel M. German, and Denys Poshyvanyk. Licensing and copyright issues in using generative AI for coding: A practitioner perspective. In *the IEEE/ACM 47th International Conference on Software Engineering (ICSE'25)*, (under review), 2025.
- [4] Antu Saha, Yang Song, Junayed Mahmud, Ying Zhou, Kevin Moran, and Oscar Chaparro. Toward the automated localization of buggy mobile app UIs from bug descriptions. In *the 33rd ACM SIGSOFT International Symposium on Software Testing and Analysis (ISSTA'24)*, (major revision under review), 2024.
- [5] Antu Saha and Oscar Chaparro. Decoding the issue resolution process documented in issue reports: A case study of mozilla firefox. In *the 40th IEEE International Conference on Software Maintenance and Evolution (ICSME'24)*, (under review), 2024.
- [6] Nathan Wintersgill, Trevor Stalaker, Laura A. Heymann, Oscar Chaparro, and Denys Poshyvanyk. “the law doesn’t work like a computer”: Exploring software licensing issues faced by legal practitioners. In *Proceedings of the ACM International Conference on the Foundations of Software Engineering (FSE'24)*, page (to appear), 2024. doi: <https://doi.org/10.1145/3643766>. URL <https://ojcchar.github.io/files/29-fse24-license-legal.pdf>.
- [7] Yanfu Yan, Nathan Cooper, Oscar Chaparro, Kevin Moran, and Denys Poshyvanyk. Semantic GUI scene learning and video alignment for detecting duplicate video-based bug reports. In *Proceedings of the IEEE/ACM 46th International Conference on Software Engineering (ICSE'24)*, page 1–13, 2024. doi: <https://doi.org/10.1145/3597503.3639163>. URL <https://ojcchar.github.io/files/28-icse24-vid-dupl.pdf>.
- [8] Trevor Stalaker, Nathan Wintersgill, Oscar Chaparro, Massimiliano Di Penta, Daniel M German, and Denys Poshyvanyk. BOMs away! inside the minds of stakeholders: A comprehensive study of bills of materials for software systems. In *Proceedings of the IEEE/ACM 46th International Conference on Software Engineering (ICSE'24)*, page 1–13, 2024. doi: <https://doi.org/10.1145/3597503.3623347>. URL <https://ojcchar.github.io/files/27-icse24-sboms.pdf>.
- [9] Junayed Mahmud, Nadeeshan De Silva, Safwat Ali Khan, Seyed Hooman Mostafavi, S M Hasan Mansur, Oscar Chaparro, Andrian (Andi) Marcus, and Kevin Moran. On using GUI interaction data to improve text retrieval-based bug localization. In *Proceedings of the IEEE/ACM 46th International Conference on Software Engineering (ICSE'24)*, page 1–13, 2024. doi: <https://doi.org/10.1145/3597503.3608139>. URL <https://ojcchar.github.io/files/26-icse24-gui-bl.pdf>.
- [10] Rafael Kallis, Giuseppe Colavito, Ali Al-Kaswan, Luca Pascarella, Oscar Chaparro, and Pooja Rani. The NLBSE'24 tool competition. In *Proceedings of the 3rd IEEE/ACM International Workshop on Natural Language-Based Software Engineering (NLBSE'24)*, page 25–28, 2024. URL <https://ojcchar.github.io/files/30-nlbse24-tools.pdf>.
- [11] Kobi Feldman, Martin Kellogg, and Oscar Chaparro. On the relationship between code verifiability and understandability. In *Proceedings of the 31st ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE'23)*, page 211–223, 2023. doi: <https://doi.org/10.1145/3611643.3616242>. URL <https://ojcchar.github.io/files/25-fse23-verification.pdf>.
- [12] Yang Song, Junayed Mahmud, Nadeeshan De Silva, Ying Zhou, Oscar Chaparro, Kevin Moran, Andrian Marcus, and Denys Poshyvanyk. BURT: a chatbot for interactive bug reporting. In *Proceedings of the 45th IEEE/ACM International Conference on Software Engineering (ICSE'23)*,

- page 170–174, 2023. doi: <https://doi.org/10.1109/ICSE-Companion58688.2023.00048>. URL <https://ojcchar.github.io/files/23-icse23-burt-tool.pdf>.
- [13] Rafael Kallis, Maliheh Izadi, Luca Pascarella, Oscar Chaparro, and Pooja Rani. The NLBSE’23 tool competition. In *Proceedings of the 2nd IEEE/ACM International Workshop on Natural Language-Based Software Engineering (NLBSE’23)*, page 25–28, 2023. doi: <https://doi.org/10.1109/NLBSE59153.2023.00007>. URL <https://ojcchar.github.io/files/24-nlbse23-tools.pdf>.
- [14] Carlos Bernal-Cárdenas, Nathan Cooper, Madeleine Havranek, Kevin Moran, Oscar Chaparro, Denys Poshyvanyk, and Andrian Marcus. Translating video recordings of complex mobile app UI gestures into replayable scenarios. *IEEE Transactions on Software Engineering (TSE)*, 49(4):1782–1803, 2023. doi: <https://doi.org/10.1109/TSE.2022.3192279>. URL <https://ojcchar.github.io/files/22-tse22-v2s.pdf>.
- [15] Yang Song and Oscar Chaparro. Recommending bug assignment approaches for individual bug reports: An empirical investigation. (arXiv:2305.18650), 2023. URL <http://arxiv.org/abs/2305.18650>. arXiv:2305.18650 [cs].
- [16] Yang Song, Junayed Mahmud, Ying Zhou, Oscar Chaparro, Kevin Moran, Andrian Marcus, and Denys Poshyvanyk. Toward interactive bug reporting for (Android app) end-users. In *Proceedings of the 30th ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE’22)*, page 344–356, 2022. doi: <https://doi.org/10.1145/3540250.3549131>. URL <https://ojcchar.github.io/files/21-fse22-burt.pdf>.
- [17] Rafael Kallis, Oscar Chaparro, Andrea Di Sorbo, and Sebastiano Panichella. NLBSE’22 tool competition. In *Proceedings of the 1st IEEE/ACM International Workshop on Natural Language-Based Software Engineering (NLBSE’22)*, page 25–28, 2022. doi: <https://doi.org/10.1145/3528588.3528664>. URL <https://ojcchar.github.io/files/20-nlbse22-tools.pdf>.
- [18] Madeleine Havranek, Carlos Bernal-Cárdenas, Nathan Cooper, Oscar Chaparro, Denys Poshyvanyk, and Kevin Moran. V2S: A tool for translating video recordings of mobile app usages into replayable scenarios. In *Proceedings of the 43rd IEEE/ACM International Conference on Software Engineering (ICSE’21)*, page 65–68, 2021. doi: <https://doi.org/10.1109/ICSE-Companion52605.2021.00037>. URL <https://ojcchar.github.io/files/19-icse21-v2s-tool.pdf>.
- [19] Nathan Cooper, Carlos Bernal-Cárdenas, Oscar Chaparro, Kevin Moran, and Denys Poshyvanyk. It takes two to tango: Combining visual and textual information for detecting duplicate video-based bug reports. In *Proceedings of the 43rd IEEE/ACM International Conference on Software Engineering (ICSE’21)*, page 957–969, 2021. doi: <https://doi.org/10.1109/ICSE43902.2021.00091>. URL <https://ojcchar.github.io/files/18-icse21-tango.pdf>.
- [20] Juan Manuel Florez, Oscar Chaparro, Christoph Treude, and Andrian Marcus. Combining query reduction and expansion for text-retrieval-based bug localization. In *Proceedings of the 28th IEEE International Conference on Software Analysis, Evolution and Reengineering (SANER’21)*, page 166–176, 2021. doi: <https://doi.org/10.1109/SANER50967.2021.00024>. URL <https://ojcchar.github.io/files/17-saner21-qrex.pdf>.
- [21] Yang Song and Oscar Chaparro. BEE: a tool for structuring and analyzing bug reports. In *Proceedings of the 28th ACM Joint Meeting on European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE’20)*, page 1551–1555, 2020. doi: <https://doi.org/10.1145/3368089.3417928>. URL <https://ojcchar.github.io/files/16-fse20-bee.pdf>.
- [22] Carlos Bernal-Cárdenas, Nathan Cooper, Kevin Moran, Oscar Chaparro, Andrian Marcus, and Denys Poshyvanyk. Translating video recordings of mobile app usages into replayable scenarios. In *Proceedings of the 42nd IEEE/ACM International Conference on Software Engineering (ICSE’20)*, page 309–321, 2020. doi: <https://doi.org/10.1145/3377811.3380328>. URL <https://ojcchar.github.io/files/15-icse20.pdf>. **ACM SIGSOFT Distinguished Paper Award.**
- [23] Oscar Chaparro. *Automated Analysis of Bug Descriptions to Support Bug Reporting and Resolution*. PhD thesis, The University of Texas at Dallas, 2019. URL <https://ojcchar.github.io/files/14-dissertation.pdf>.
- [24] Oscar Chaparro, Carlos Bernal-Cárdenas, Jing Lu, Kevin Moran, Andrian Marcus, Massimiliano Di Penta, Denys Poshyvanyk, and Vincent Ng. Assessing the quality of the steps to reproduce in bug reports. In *Proceedings of the 27th ACM Joint Meeting on the Foundations of Software Engineering (ESEC/FSE’19)*, page 86–96, 2019.

- doi: <https://doi.org/10.1145/3338906.3338947>. URL <https://ojcchar.github.io/files/13-fse19.pdf>. **ACM SIGSOFT Distinguished Paper Award.**
- [25] Oscar Chaparro, Juan Manuel Florez, and Andrian Marcus. Using bug descriptions to reformulate queries during text-retrieval-based bug localization. *Empirical Software Engineering (EMSE)*, 24(5):2947–3007, 2019. doi: <https://doi.org/10.1007/s10664-018-9672-z>. URL <https://ojcchar.github.io/files/11-emse.pdf>.
- [26] Oscar Chaparro, Juan Manuel Florez, Unnati Singh, and Andrian Marcus. Reformulating queries for duplicate bug report detection. In *Proceedings of the IEEE 26th International Conference on Software Analysis, Evolution and Reengineering (SANER'19)*, page 218–229, 2019. doi: <https://doi.org/10.1109/SANER.2019.8667985>. URL <https://ojcchar.github.io/files/12-saner19.pdf>.
- [27] O. Chaparro, J. M. Florez, and A. Marcus. Using observed behavior to reformulate queries during text retrieval-based bug localization. In *Proceedings of the 33rd IEEE International Conference on Software Maintenance and Evolution (ICSME'17)*, page 376–387, 2017. doi: <https://doi.org/10.1109/ICSME.2017.100>. URL <https://ojcchar.github.io/files/9-icsmel7.pdf>. **IEEE TCSE Distinguished Paper Award.**
- [28] Oscar Chaparro, Jing Lu, Fiorella Zampetti, Laura Moreno, Massimiliano Di Penta, Andrian Marcus, Gabriele Bavota, and Vincent Ng. Detecting missing information in bug descriptions. In *Proceedings of the 11th ACM Joint Meeting on the Foundations of Software Engineering (ESEC/FSE'17)*, page 396–407, 2017. doi: <https://doi.org/10.1145/3106237.3106285>. URL <https://ojcchar.github.io/files/8-fse17.pdf>.
- [29] Oscar Chaparro. Improving bug reporting, duplicate detection, and localization. In *Proceedings of the 39th ACM/IEEE International Conference on Software Engineering (ICSE'17)*, page 421–424, 2017. doi: <https://doi.org/10.1109/ICSE-C.2017.27>. URL <https://ojcchar.github.io/files/7-icse17.pdf>.
- [30] Martin P. Robillard, Andrian Marcus, Christoph Treude, Gabriele Bavota, Oscar Chaparro, Neil Ernst, Marco Aurélio Gerosa, Michael Godfrey, Michele Lanza, Mario Linares-Vásquez, Gail C. Murphy, Laura Moreno, David Shepherd, and Edmund Wong. On-demand developer documentation. In *Proceedings of the 33rd IEEE International Conference on Software Maintenance and Evolution (ICSME'17)*, page 479–483, 2017. doi: <https://doi.org/10.1109/ICSME.2017.17>. URL <https://ojcchar.github.io/files/10-icsmel7.pdf>.
- [31] Oscar Chaparro and Andrian Marcus. On the reduction of verbose queries in text retrieval based software maintenance. In *Proceedings of the 38th ACM/IEEE International Conference on Software Engineering (ICSE'16)*, page 716–718, 2016. doi: <https://doi.org/10.1145/2889160.2892647>. URL <https://ojcchar.github.io/files/5-icse16.pdf>.
- [32] Oscar Chaparro, Juan Manuel Florez, and Andrian Marcus. On the vocabulary agreement in software issue descriptions. In *Proceedings of the 32nd IEEE International Conference on Software Maintenance and Evolution (ICSME'16)*, page 448–452, 2016. doi: <https://doi.org/10.1109/ICSME.2016.44>. URL <https://ojcchar.github.io/files/6-icsmel6.pdf>.
- [33] Oscar Chaparro, Gabriele Bavota, Andrian Marcus, and Massimiliano Di Penta. On the impact of refactoring operations on code quality metrics. In *Proceedings of the 30th IEEE International Conference on Software Maintenance and Evolution (ICSME'14)*, page 456–460, 2014. doi: <https://doi.org/10.1109/ICSME.2014.73>. URL <https://ojcchar.github.io/files/4-icsmel4.pdf>.
- [34] Oscar Chaparro, Jairo Aponte, Fernando Ortega, and Andrian Marcus. Towards the automatic extraction of structural business rules from legacy databases. In *Proceedings of the 19th IEEE Working Conference on Reverse Engineering (WCRE'12)*, page 479–488, 2012. doi: <https://doi.org/10.1109/WCRE.2012.57>. URL <https://ojcchar.github.io/files/2-wcre12.pdf>.
- [35] Oscar Chaparro. Semiautomatic reverse engineering tool on oracle forms information systems. Master's thesis, Universidad Nacional de Colombia, 2012. URL <https://ojcchar.github.io/files/3-master-thesis.pdf>.
- [36] Oscar Chaparro, Fernando Cortés, and Jairo Aponte. Reverse engineering in procedural software evolution. In *Research topics in software evolution and maintenance*, pages 127–153. Editorial Universidad Nacional de Colombia, 2012.