

Universidade de Pernambuco

Programa de Pós-Graduação em Engenharia da Computação (PPGEC)

Proposta de Tese de Doutorado

Áreas: Engenharia de Software e Inteligência Artificial

Título: Powering Industry-Academia Collaboration in Software Engineering and Artificial Intelligence areas

Orientador – Wyllyams Barbosa Santos (wbs@upe.br)

Research collaboration between industry and academia supports improvement and innovation and helps ensure the industrial relevance of academic research [1], but a synergistic relationship must be developed [3]. Wohlin [2] states that “Actually, it is not about doing studies in the industry; this is about doing studies with the industry”.

Both communities - academia and industry - when articulated together, become a strong innovation mechanism for the industry, also helping to expand the relevance of academic research [3]. However, Industry-Academy Collaboration (IAC) activities are still incipient [1] [2]. New strategies must be developed to stimulate IAC projects [1] [4].

Some collaboration initiatives are emerging in the context of software testing [5] [6]. However, in general, in the context of SE and AI fields, orchestrated collaborations are still challenging [1] [3] [4] [7]. This research aims to propose a framework to power the industry-academia collaboration in Software Engineering and Artificial Intelligence fields, thus offering an environment that can promote this collaboration. As part of the research, several case studies and action research cycles are targeted for the application and evolution of the framework in software companies. In this direction, practitioners could obtain more research results with practical relevance and researchers could better understand the type and scope of problems to examine.

Referências Bibliográficas

- [1] Garousi, V., Pfahl, D., Fernandes, J. M., Felderer, M., Mäntylä, M. V., Shepherd, D., & Tekinerdogan, B. (2019). Characterizing industry-academia collaborations in software engineering: evidence from 101 projects. *Empirical Software Engineering*, 24(4), 2540-2602.5
- [2] Wohlin, C. (2013, May). Empirical software engineering research with industry: Top 10 challenges. In *2013 1st International Workshop on Conducting Empirical Studies in Industry (CESI)* (pp. 43-46). IEEE.
- [3] Carver, J. C., & Prikładnicki, R. (2018). Industry-academia collaboration in software engineering. *IEEE Software*, 35(5), 120-124.
- [4] Garousi, V., Petersen, K., & Ozkan, B. (2016). Challenges and best practices in industry-academia collaborations in software engineering: A systematic literature review. *Information and Software Technology*, 79, 106-127.
- [5] Felderer, M., & Garousi, V. (2020, January). Together We Are Stronger: Evidence-Based Reflections on Industry-Academia Collaboration in Software Testing. In *International Conference on Software Quality* (pp. 3-12). Springer, Cham.
- [6] Garousi, V., Eskandar, M. M., & Herkiloğlu, K. (2017). Industry-academia collaborations in software testing: experience and success stories from canada and turkey. *Software Quality Journal*, 25(4), 1091-1143.
- [7] Marijan, D., Shang, W., & Shukla, R. (2019). Implications of Resurgence in Artificial Intelligence for Research Collaborations in Software Engineering. *ACM SIGSOFT Software Engineering Notes*, 44(3), 68-70.