# Keheliya Gallaba

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**SUMMARY**
- Experience in building developer tools at *Microsoft Research, Fortinet,* & *WSO2* in *Java, Node.js, Python*
- Mining large-scale data sources in software engineering (i.e., *GitHub, StackOverflow,* & *TravisCI*) to provide insights for developers, as my PhD research.
- Published in top-tier *Software Engineering* research journals & conferences (*TSE, ASE, ESEM, MSR*).

**RESEARCH EXPERIENCE**

**Microsoft Research**, Cambridge, UK

- PhD Research Intern, Systems and Networking Group — Jun 2018 – Sep 2018
  - Supervisors: Dr Katja Kevic and Dr Brendan Murphy
  - Focus: Automatic removal of feature gates in source code

**INDUSTRIAL EXPERIENCE**

**Fortinet Inc.**, Vancouver, BC, Canada

- **Software Development Engineer II**, Forticlient Team — Feb 2016 – Aug 2016
  - Worked on the system for generating software vulnerability signatures, validating them, and delivering them to endpoint security software (Forticlient).

**WSO2 Inc.**, Colombo, Sri Lanka

- **Senior Software Engineer**, Integration Technologies Team — Apr 2013 – Nov 2013
  - Development and support of open source middleware solutions for enterprise integration problems.
- **Software Engineer**, Integration Technologies Team — Dec 2011 – Mar 2013
  - Worked with WSO2 Business Process Server, Enterprise Service Bus, Identity Server & Governance Registry.
  - Experience with WS-BPEL & other WS-* standards, SOAP/REST web services.
  - XPATH, XSLT, Apache ODE and Eclipse plug-in development.

**EDUCATION**

**McGill University**, Montréal, QC, Canada

- Ph.D. in Software Engineering — Sep 2016 – Present
  - Thesis: Improving the Robustness and Efficiency of Continuous Integration and Continuous Deployment Tools
  - Adviser: Prof. Shane McIntosh
  - Publications: MSR17a, MSR17b, MSR18a, MSR18b, TSE18, ASE18, MSR19.

**University of British Columbia**, Vancouver, BC, Canada

- M.A.Sc. in Software Engineering — Jan 2014 – Dec 2015
  - Thesis: Characterizing and refactoring asynchronous JavaScript callbacks
  - Advisers: Prof. Ali Mesbah and Prof. Ivan Beschastnikh
  - Publications: ESEM15, ICSME17.

**University of Moratuwa**, Moratuwa, Sri Lanka

- B.Sc. (Hons.) in Computer Science and Engineering — May 2007 – Nov 2011
  - Thesis: An analysis of BPMN 2.0 as a business process execution language
  - Advisers: Vishaka Nanayakkara and Dr Milinda Pathirage
  - Publications: CeBPM12.

**AWARDS & RECOGNITION**

- FRQNT Doctoral Research Award (Bourses de doctorat en recherche) — May 2018
  Ranked #1 in the ICT group and obtained the competitive scholarship provided by Fonds de recherche du Québec – Nature et technologies (FRQNT).
- McGill Engineering Doctoral Award (MEDA) — 2016 – 2019
  Full scholarship with stipend for PhD studies at McGill University.
- Best Full Paper Award — Oct 2015
  Awarded at The ACM/IEEE International Symposium on Empirical Software Engineering and Measurement.
- ISERN Student Travel Grant — Oct 2015
  Awarded by The International Software Engineering Research Network (ISERN) to attend ESEM '15.

**PUBLICATIONS**

**FULL PAPERS IN INTERNATIONAL JOURNALS**

[TSE18]  K. Gallaba and S. McIntosh, "Use and Misuse of Continuous Integration Features: An Empirical Study of Projects that (mis)use Travis CI," *IEEE Transactions on Software Engineering*, 2018.

## FULL PAPERS IN INTERNATIONAL CONFERENCES

[ASE18] <u>K. Gallaba</u>, C. Macho, M. Pinzger, and S. McIntosh, "Noise and Heterogeneity in Historical Build Data: An Empirical Study of Travis CI", In *Proceedings of the International Conference on Automated Software Engineering (ASE)*, 87–97, Sep 2018.

[ICSME17] <u>K. Gallaba</u>, Q. Hanam, A. Mesbah, and I. Beschastnikh, "Refactoring Asynchrony in JavaScript", In *Proceedings of the International Conference on Software Maintenance and Evolution (ICSME)*, 353–363, Sep 2017.

[ESEM15] <u>K. Gallaba</u>, A. Mesbah, and I. Beschastnikh, "Don't Call Us, We'll Call You: Characterizing Callbacks in JavaScript", In *Proceedings of the International Symposium on Empirical Software Engineering and Measurement (ESEM)*, pp. 247–256, Oct 2015. **Best Paper Award**

## SHORT PAPERS IN INTERNATIONAL CONFERENCES

[MSR19] D. Abric, O. E. Clark, M. Caminiti, <u>K. Gallaba</u>, and S. McIntosh , "Can Duplicate Questions on Stack Overflow Benefit the Software Development Community?", In *Proceedings of the 16th International Conference on Mining Software Repositories (MSR), Mining challenge*, May 2019.

[MSR18a] N. Rabbani, M. S. Harvey, S. Saquif, <u>K. Gallaba</u>, and S. McIntosh , "Revisiting "Programmers' Build Errors" in the Visual Studio Context", In *Proceedings of the 15th International Conference on Mining Software Repositories (MSR), Mining challenge*, pp. 98–101, May 2018.

[MSR18b] R. Amlekar, A. F. R. Gamboa, <u>K. Gallaba</u>, and S. McIntosh, "Do Software Engineers Use Autocompletion Features Differently Than Other Developers?", In *Proceedings of the 15th International Conference on Mining Software Repositories (MSR), Mining challenge*, pp. 86–89, May 2018.

[MSR17a] M. Manglaviti, E. Coronado-Montoya, <u>K. Gallaba</u>, and S. McIntosh, "An Empirical Study of the Personnel Overhead of Continuous Integration", In *Proceedings of the 14th International Conference on Mining Software Repositories (MSR), Mining challenge*, pp. 471–474, May 2017.

[MSR17b] Y. Khan, Y. Gupta, <u>K. Gallaba</u>, and S. McIntosh, "The Impact of the Adoption of Continuous Integration on Developer Attraction and Retention", In *Proceedings of the 14th International Conference on Mining Software Repositories (MSR), Mining challenge*, pp. 491–494, May 2017.

## FULL PAPERS IN INTERNATIONAL WORKSHOPS

[CeBPM12] <u>K. Gallaba</u>, U. Pavalanathan, I. Jayawardena, E. Sooriyabandara, V. Nanayakkara, "Levi — A Workflow Engine Using BPMN 2.0", Workshop on Cloud-enabled Business Process Management (CeBPM 2012), Paphos, Cyprus, pp. 92–104, Nov 2012.

| ACADEMIC SERVICE | **REVIEWER** | |
|---|---|---|
| | IEEE Transactions on Software Engineering **(TSE)** | 2019 |
| | International Conference on Program Comprehension **(ICPC)** - Tools Track | 2019 |
| | Journal of Information and Software Technology **(IST)** | 2018 |
| | International Conference on Object-oriented Programming, Systems, Languages, and Applications **(OOPSLA)** - Artifact Evaluation Committee | 2017 |

**CO-REVIEWER**

- Empirical Software Engineering Journal **(EMSE)** — 2019
- International Conference on Software Analysis, Evolution, and Reengineering **(SANER)** — 2019
- International Conference on Mining Software Repositories **(MSR)** — 2018
- Canadian Conference on Electrical and Computer Engineering **(CCECE)** — 2018
- International Conference on Software Maintenance and Evolution **(ICSME)** — 2017
- Journal of Systems and Software **(JSS)** — 2017

**MENTORING & TEACHING EXPERIENCE**

**Undergraduate Students** (Co-advised with Dr. Shane McIntosh)

- Durham Abric, Oliver Clark, Matthew Caminiti — Sep 2018 – Apr 2019
  - Co-authored Papers: MSR19

- Rahul Amlekar, Noam Rabbani, Mike Harvey, Sadnan Saquif, Andrés Felipe Rincón Gamboa — Sep 2017 – Apr 2018

- Co-authored Papers: MSR18a, MSR1b
- Marco Manglaviti, Eduardo Coronado-Montoya, Yash Gupta, Yusaira Khan     Sep 2016 – Apr 2017
  - Co-authored Papers: MSR17a, MSR17b

### Teaching Assistant

- McGill University, Montréal, QC, Canada
  - **ECSE321** Introduction to Software Engineering     Fall 2017
- University of British Columbia, Vancouver, BC, Canada
  - **EECE416** Software Testing and Analysis     Winter II 2014
  - **EECE310** Software Engineering     Winter II 2013 & Winter I 2014