

PERSONAL INFORMATION

John Businge

Nationality: Ugandan

Languages: English (fluent)

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Google Scholar: <https://scholar.google.com/citations?user=n9RFi3sAAAAJ>

SUMMARY

I am a researcher in the software engineering field. I have broad research/academic experience from studying and working at different institutions across the globe, and I am driven to produce quality research on Software Engineering. My research interests include empirical software engineering, application frameworks, software ecosystems, mining software repositories, clone detection, social software development and software product lines. My works have been published in several international conferences and journals, including ICSME, CSMR, SANER, ICPC, SCAM, EVOL/IWPSE, PROMISE, Journal of Software Quality and Journal of Empirical Software Engineering. You can find more details about my published work on the my [Google scholar page](#).

GRANTS

Role: *Co-PI*

Sponsor: *Sida - Swedish International Development Cooperation*

Project Acronym: *BRIGHT*

Duration: *2015–2020*

Project Title: *Building Research Capacity in Innovative Information and Communication Technologies for Development (ICT4D) for Sustainable Socio-economic Growth in Uganda*

Participating Universities: *Mbarara University of Science and Technology–Uganda, Makerere University, College of Computing and IT–Uganda, Chalmers University–Sweden and Gothenburg–Sweden*

Fulbright Visiting Scholar Program, University of California Davis, U.S.A – Feb 2016 – July 2016

I was awarded a Fulbright Visiting Research Scholar grant to go and do research from University of California Davis for six months.

EXPERIENCE

- **University of Nevada, Las Vegas, U.S.A**

Assistant Professor, July 2022 – Present

- **Research:**
- **Teaching:**

- **University of Antwerp, Belgium**

Post Doctoral Researcher, Nov 2019 - Aug 2019

- **Research:** I carry out research on Software ecosystems. Software ecosystems form large socio-technical networks of technical and social components that interact with each other on top of common software and hardware platforms. The main goal of my research is to develop recommendation tools for enhancing team interaction. The recommendation tools should help in identifying and addressing “toxic” team members; as well as predicting future abandonment and finding adequate replacements.

- **Teaching:**
Level: Masters
 - * Software Re-engineering, Masters in Software Engineering, Teaching Assistant (2020, 2021, 2022)
 - * Capita Selecta Course, Masters in Software Engineering, Teaching Assistant, (2019)

- **Mbarara University of Science and Technology, Uganda**

Lecturer, July 2006 – Nov 2019

- **Teaching:**

Level: Masters

- * Software Metrics, Bachelors in Software Engineering, (2020, 2021, 2022)
- * Introduction Programming using Python, Masters in Healthy Informatics, (2015 – 2017)

Level: Undergraduate

- * Programming Methodology, Bachelor of Computer Engineering, (2006 – 2009)
- * Database Management Systems, Mbarara University of Science and Technology, (2007-2009)
- * Introduction to programming using Python / C / Java, Bachelor of Computer Science and Bachelor of Information Technology. (2006-2009, 2013-2015)

- **University of Gothenburg and Chalmers University of Technology, Sweden**

Postdoctoral Research, July 2017 – July 2018

- **Research:** I carried out a project of variability management in the Android ecosystem. The study explored clone-based reuse practices for open-source Android apps. I identified and analyzed families of apps that are maintained together and that exist both on the official app store (Google Play) as well as on Github, allowing us to analyze reuse practices in depth. This project was also carried out in collaboration with Prof. Sarah Nadi from University of Alberta, Canada.

- **University of California Davis, U.S.A**

Fulbright Research Scholar, Feb 2016 – July 2016

- **Research:** I spent six months in the University of California Davis, U.S.A as a Fulbright Research Scholar. I investigated Android App Popularity by cross-linking GitHub and Google Play Store. I examined how technical and social features of Open Source Software Apps, mined from two crowdsourced websites, relate to App popularity. I observed that both the technical and the social factors play significant roles in explaining App popularity.

EDUCATION

- **Technology University of Eindhoven, The Netherlands**

PhD in Computing Science, May 2009 – July. 2013

- **University of Groningen, The Netherlands**

Masters in Computing Science, Sept. 2004 – July. 2006

- **Makerere University, Uganda**

Bachelors of Computing Science, Sept. 1998 – April. 2002

WORKS IN PROGRESS

- **Patched Clones and Missed Patches among Divergent variants Repositories**

Article manuscript in the final stages, to be submitted in the Spring of 2022

- **Analysing Anti-pattern and Decay in Continuous Integration among Divergent variants Repositories**

Article manuscript in progress, to be submitted in the Spring of 2022

- **Evolution of Technical Debt Divergent variants Repositories**

Article manuscript in progress, to be submitted in the Spring of 2022

• **Journals**

2. **John Businge**, Openja Moses, Sarah Nadi, Engineer Bainomugisha and Thorsten Berger. **Reuse and Maintenance Practices among Divergent Forks in Three Software Ecosystems**. Empirical Software Engineering. *Accepted–2021*.
1. **John Businge**, Alexander Serebrenik, Mark van den Brand. **Eclipse API Usage: the Good and the Bad**. Software Quality Journal, 23(1):107-141, 2015. **Citations=66**.

Conferences

15. Poedjajadevie Kadjel Ramkisoen, **John Businge**, Brent van Bradel, Alexandre Decan, Serge Demeyer, Coen De Roover, Foutse Khomh. **PaReco: Patched Clones and Missed Patches among the Divergent Variants of a Software Family**, The ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE), 2022. *Accepted*.
14. Henrique Rocha and **John Businge**. **Blockchain-Oriented Software Variant Forks: A Preliminary Study**, 5th International Workshop on Blockchain Oriented Software Engineering, IW-BOSE 2022.
13. **John Businge**, Alexandre Decan, Ahmed Zerouali, Tom Mens, Serge Demeyer, Coen De Roover. **Variant Forks – Motivations and Impediments** 29th IEEE International Conference on Software Analysis, Evolution and Reengineering (SANER 2022). *Accepted*
12. Mercy Njima, **John Businge**, Serge Demeyer. **An Empirical Study of Technical Debt Management as a Motivation for Forking**. Proceedings BENEVOL 2020 (19th edition of the Belgian-Netherlands software eVOLution symposium)
11. **John Businge**, Alexandre Decan, Ahmed Zerouali, Tom Mens, Serge Demeyer. **An Empirical Investigation of Forks as Variants in the npm Package Distribution**. Proceedings BENEVOL 2020 (19th edition of the Belgian-Netherlands software eVOLution symposium)
10. **John Businge**, Moses Openja, David Kavaler Engineer Bainomugisha, Foutse Khomh, Vladimir Filkov. **Study of Android App Popularity by Cross-Linking Github and Google Play Store**. 26th IEEE International Conference on Software Analysis, Evolution and Reengineering, (SANER), February 24-27, 2019. **Citations=13**.
9. **John Businge**, Simon Kawuma, Moses Openja, Engineer Bainomugisha, Alexander Serebrenik. **How stable are Eclipse Application Framework Internal Interfaces?** 26th IEEE International Conference on Software Analysis, Evolution and Reengineering, (SANER), pp.117-127, February 24-27, 2019. **Citations=2**.
8. **John Businge**, Openja Moses, Sarah Nadi, Engineer Bainomugisha and Thorsten Berger. **Clone-Based Variability Management in the Android Ecosystem**, *In Proceedings of the IEEE 34th International Conference on Software Maintenance and Evolution (ICSME 2018)*. **Citations=31**.
7. **John Businge**, Simon Kawuma, Engineer Bainomugisha, Foutse Khomh, Evarist Nabaasa. **Code Authorship and Fault-proneness of Open-Source Android Applications: An Empirical Study**, Proceedings of the 13th International Conference on Predictive Models and Data Analytics in Software Engineering (PROMISE), 2017. **Citations=8**.
6. Simon Kawuma, **John Businge**, Engineer Bainomugisha, **Can we find stable alternatives for unstable Eclipse interfaces?**, Proceedings of the IEEE 24th International Conference on Program Comprehension (ICPC), 2016. **Citations=3**.
5. **John Businge**, **Co-evolution of the Eclipse SDK Framework and its Third-party Plugins**, *In Proceedings of the IEEE 17th European Conference on Software Maintenance and Reengineering (CSMR 2013)*, pp. 427–430, March 28, 2013, Genova, Italy. **Citations=4**.
4. **John Businge**, Alexander Serebrenik, Mark van den Brand, **Analyzing the Eclipse API Usage: Putting the Developer in the Loop**, *In Proceedings of the IEEE 17th European Conference on Software Maintenance and Reengineering (CSMR 2013)*, pp. 37–46, March 28, 2013, Genova, Italy. **Citations=41**.

3. **John Businge**, Alexander Serebrenik, Mark van den Brand, **Compatibility Prediction of Eclipse Third-Party Plug-ins in New Eclipse Releases**, *In Proceedings of the IEEE 12th International Working Conference on Source Code Analysis and Manipulation (SCAM 2012)*, 23–24 September 2012 - Riva del Garda, Trento, Italy. **Citations=13.**
2. **John Businge**, Alexander Serebrenik, Mark van den Brand, **Survival of Eclipse Third-party Plug-ins**, *In Proceedings of the IEEE 28th International Conference on Software Maintenance (ICSM 2012)*, 23–30 September 2012 - Riva del Garda, Trento, Italy. **Citations=48.**
1. **John Businge**, Alexander Serebrenik, Mark van den Brand, **An empirical study of the evolution of Eclipse third-party plug-ins**, IWPSE-EVOL '10 *In Proceedings of the Joint ERCIM Workshop on Software Evolution (EVOL) and International Workshop on Principles of Software Evolution (IWPSE)*, 2010, pp. 63–72. **Citations=50.**

SUPERVISION EXPERIENCE

Name: Mercy Njima

Level: PhD

Affiliation: Faculty of Computer Science and Mathematics, University of Antwerp, Belgium

Thesis Title: Analysing Technical Debt in GitHub Repositories

Status: Completed – 2019– ongoing

Name: Simon Kawuma

Level: PhD

Affiliation: Faculty of Computing and Informatics, Mbarara University of Science and Technology, Mbarara Uganda

Thesis Title: API Refactoring Assistant for Eclipse Framework API Providers and API Users

Status: Completed – 2013–2019

Name: Evarist Nabaasa

Level: PhD

Affiliation: Faculty of Computing and Informatics, Mbarara University of Science and Technology, Mbarara Uganda

Thesis Title: Scheduling and Optimization of Traffic Lights using Wireless Sensor Networks

Status: Completed – 2014

RESEARCH COLLABORATIONS

I have been engaged in a number of research collaborations with a number of top researchers around the world.

- Prof. Dr. Thorsten Berger–Chalmers — University of Gothenburg, Gothenburg, Sweden
- Prof. Dr. Sarah Nadi:–University of Alberta, Edmonton, Canada
- Prof. Dr. Foutse Khomh–École Polytechnique de Montréal, Canada
- Prof. Vladimir Filkov:–University of California Davis, California, USA.
- Prof. Dr. Alexander Serebrenik–Eindhoven University of Technology, The Netherlands
- Prof. Dr. Engineer Bainomugisha–Makerere University, Kampala, Uganda.
- Prof. Tom Mens–University of Mons, Mons, Belgium.
- Prof. Serge Demeyer–University Antwerp, Antwerp, Belgium.
- Prof. Coen DE Rover–Vrije Universiteit Brussel, Belgium.

COMMUNITY SERVICE

I have been a peer reviewer of the following International Conferences and Journals:

1. Reviewer of the International Conference on Mining Software Repositories (MSR), 2020.
2. Reviewer of the Journal of Science of Computer Programming, 2016, 2018, 2019.
3. Research Track, International Conference on Program Comprehension (ICPC), 2019, 2020
4. Research Track, International Conference on Software Maintenance and Evolution (ICSME), 2019.
5. Research Track, International Working Conference on Source Code Analysis and Manipulation (SCAM), 2019, 2020, 2021.