HAFIYYAN SAYYID FADHLILLAH | Extended Curriculum Vitae

❯ Work Email: hafiyyan.fadhlillah@jku.at

❯ Online Profile: Linkedin and Google Scholar

❯ Nationality: Indonesia

❯ Research Interests: -) Model-Based Software Engineering

-) Variability Management and Software Product Lines

-) Software Architecture and Modularization

-) Web and Mobile Application Engineering

❯❯❯ Education

Sep 2011 - Jan 2016	**Bachelor of Computer Science**	Universitas Indonesia
	Thesis Topic: Smart Sensors for Drip Irrigation System	
Sep 2017 - Jan 2019	**Master of Computer Science**	Universitas Indonesia
	Thesis Topic: Generating Progressive Web Application User Interface For Software Product Line Engineering Using Interaction Flow Modeling Language	
Sep 2021 - Now	**Doctor of Technical Sciences**	Johannes Kepler University Linz
	Thesis Topic: A Multidisciplinary Variability Management Approach for Control Software in Cyber-Physical Production Systems	

❯❯❯ Employment History

Sep 2016 - Aug 2017	**Full-Time Teaching Assistant**	Universitas Indonesia

❯ Prepared exercises for several courses
❯ Served as a tutor for several bachelor students in programming-related courses.
❯ Developed several web-based information systems for the university.

Feb 2019 - Jan 2021	**Junior Lecturer**	Universitas Indonesia

❯ Conducted research with the Reliable Software Engineering Lab in the Faculty of Computer Science Universitas Indonesia.
❯ Taught several programming-related courses for bachelor students.
❯ Served as a thesis supervisor for bachelor thesis.
❯ Taught programming-related topics at nationwide seminars.

Mar 2021 - Now	**Research Project Employee**	Christian Doppler Laboratory VaSiCS

❯ Industry-academia collaboration project to address the challenges of managing control software variability Cyber-Physical Production System development.
❯ Develop a method to elicit Cyber-Physical Production System multidisciplinary variability and generate client-specific control software variants.

❯❯❯ Research Project Experiences

Updated: 31.10.2024

Feb 2019 - Feb 2021	**Adaptive Information System for Charity Organization (AISCO)**	Reliable Software Engineering Lab Universitas Indonesia

❯ A web application that aims to automatically generate web-based information systems for charity organization in Indonesia.
❯ Combining existing approaches from Software Product Lines and existing web application technologies.
❯ Responsible as a senior software engineer.

❯❯❯ Professional Experiences

Mar 2016 - Aug 2016	**Junior Full Stack Web Developer**	PT Smartekno Solusi Bisnis

❯ *Project Name: Financial Information Services System (SLIK) OJK*
❯ A web-based information system whose management aims to carry out supervisory tasks and provide financial information services for all banks in Indonesia.
❯ This project was implemented in cooperation with the Indonesian Financial Services Authority (OJK) and the central bank of Indonesia (BI).

Jan 2018 - Dec 2018	**Junior Full Stack Web Developer**	Indonesian Food and Drug Authority (Badan POM)

❯ *Project Name: Web-based Internal Correspondence System (SURPIM)*
❯ A web-based internal correspondence system that aims to digitalize the correspondence system of all divisions in the Indonesian Food and Drug Authority

Aug 2019 - Feb 2021	**Senior Back-End Web Developer**	National Accreditation Body for Higher Education (BAN-PT)

❯ *Project Name: Mail Correspondence Administration System (SAPTA)*
❯ A web application that aims to digitalize the mail correspondence administration for all universities in Indonesia with BAN-PT.

Aug 2019 - Mar 2021	**Senior Back-End Web Developer**	Archives Office Universitas Indonesia

❯ *Project Name: Web-based Internal Mailing System (ANDIENI)*
❯ An internal web-based information system that aims to digitalize the correspondence system of all faculties in Universitas Indonesia.

❯❯❯ Research Grants & Scholarships

Sep 2017 - Jan 2019	**Teaching Assistant Scholarship**	Universitas Indonesia

Apr 2019 - Oct 2019	**Research Prototype Design Grant (PHD Pro)**	Universitas Indonesia

❯❯❯ Scientific Services

❯ **Additonal Reviewers**

- 33rd International Conference on Software Engineering & Knowledge Engineering (SEKE) 2021
- 25th Systems and Software Product Line Conference (SPLC) 2021
- 16th Working Conference on Variability Modelling of Software-Intensive Systems (VaMoS) 2022
- 5th International Workshop on Languages for Modelling Variability (MODEVAR) 2022 Co-Located with SPLC 2022
- 26th Systems and Software Product Line Conference (SPLC) 2023
- 36th International Conference on Software Engineering & Knowledge Engineering (SEKE) 2024

❯ **Workshop & Conference PC Member**

- 7th International Workshop on Languages for Modelling Variability (MODEVAR) Co-Located with SPLC 2024MODEVAR Workshop Co-Located with SPLC 2024
- 1st International Workshop on Reverse Variability Engineering and Evolution of Software-Intensive Systems (Re:volution) Co-Located with SPLC 2024 Co-Located with SPLC 2024

⟫⟫ Student Supervisions

❯ Master Students of Universitas Indonesia

Dates	Thesis Topic	Student's Name
Feb 2024 - Now	Adopting Delta-Oriented Approach into Interaction Flow Modeling Language for Modeling User Interface Variants in Web-based Multi-Product Lines (Co-supervisor)	Ilma Ainur Rohma

❯ Bachelor Students of Universitas Indonesia

Dates	Thesis Topic	Student's Name
Feb - Jun 2019	Developing User Interface Interface Generator Technology using ReactJS and Software Product Lines (Co-supervisor)	Affan Dhia Ardhiva
Sep - Dec 2019	System Integration and Deployment Tools for Multiple Web Product Creation Based on Software Product Line Engineering (Co-supervisor)	Ichlasul Affan
Feb - Jun 2020	Software Product Line Engineering and API Adapter for Payment Gateway Variation's Development (Co-supervisor)	Samuel Tupa Febrian
Feb - Jun 2020	Docker Deployment on Software Product Line Engineering (Co-supervisor)	Claudio Yosafat
Feb - Jun 2020	Applying React Redux for Web Application Generator Based on Software Product Line Engineering (Co-supervisor)	Ryan Naufal Pioscha
Sep - Dec 2020	Adapting GraphQL Technology in Web Application Generator for Software Product Line Engineering (Co-supervisor)	Tengku Izdihar Rahman Amanulla

❯ Bachelor Students of Johannes Kepler University Linz

Dates	Thesis Topic	Student's Name
Feb - Jun 2023	Visualizing Delta-Oriented Variability Modeling for IEC 61499 (Co-supervisor)	Alexandra Astleithner

⟫⟫ Courses Taught

Summer Term 2019 - 2020	**Advanced Programming Course**	Universitas Indonesia
Winter Term 2019	**Software Quality Assurance Course**	Universitas Indonesia
Summer Term 2019 - 2020	**Software Engineering Project Course**	Universitas Indonesia
Winter Term 2020	**Foundational Programming Course with Python**	Universitas Indonesia
Summer Term 2022 - 2024	**Product Line Engineering Course**	Johannes Kepler University Linz

⟫⟫ Peer-Reviewed Publications

❯ Journal

[J1] K. Meixner, K. Feichtinger, **H. S. Fadhlillah**, S. Greiner, H. Marcher, R. Rabiser, S. Biffl, "Variability modeling of products, processes, and resources in cyber–physical production systems engineering". In: *Journal of Systems and Software* 211 (2024), p. 112007. ɪꜱꜱɴ: 0164-1212.

❯ Book Chapter

[BCH1] M. R. A. Setyautami, **H. S. Fadhlillah**, D. Adianto, I. Affan, A. Azurat, "Re-Engineering Microservice Applications into Delta-Oriented Software Product Lines". In: *Handbook of Re-Engineering Software Intensive Systems into Software Product Lines*. Ed. by R. E. Lopez-Herrejon, J. Martinez, W. K. Guez Assunção, T. Ziadi, M. Acher, and S. Vergilio. Cham: Springer International Publishing, 2023, pp. 275–292. ISBN: 978-3-031-11686-5.

❯ Proceeding of International Conferences

[C1] **H. S. Fadhlillah**, B. Wiesmayr, M. Oberlehner, R. Rabiser, A. Zoitl, "Towards Delta-Oriented Variability Modeling for IEC 61499". In: *26th IEEE International Conference on Emerging Technologies and Factory Automation, ETFA 2021, Vasteras, Sweden, September 7-10, 2021*. IEEE, 2021, pp. 1–4.

[C2] **H. S. Fadhlillah**, K. Feichtinger, K. Meixner, L. Sonnleithner, R. Rabiser, A. Zoitl, "Towards Multidisciplinary Delta-Oriented Variability Management in Cyber-Physical Production Systems". In: *Proceedings of the 16th International Working Conference on Variability Modelling of Software-Intensive Systems*. VaMoS '22. Florence, Italy: Association for Computing Machinery, 2022.

[C3] **H. S. Fadhlillah**, A. M. G. Fernández, R. Rabiser, A. Zoitl, "Managing Cyber-Physical Production Systems Variability Using V4rdiac: Industrial Experiences". In: *Proceedings of the 27th ACM International Systems and Software Product Line Conference - Volume A*. SPLC '23. Tokyo, Japan: Association for Computing Machinery, 2023, pp. 223–233.

[C4] **H. S. Fadhlillah**, S. Sharma, A. M. Gutierrez Fernandez, R. Rabiser, A. Zoitl, "Delta Modeling in IEC 61499: Expressing Control Software Variability in Cyber-Physical Production Systems". In: *2023 IEEE 28th International Conference on Emerging Technologies and Factory Automation (ETFA)*. 2023, pp. 1–8.

[C5] **H. S. Fadhlillah**, S. Sharma, R. Rabiser, A. Zoitl, "Supporting Variability Management in Cyber-Physical Production Systems: Towards Semi-Automatic Delta Model Mining for IEC 61499". In: *2022 IEEE 27th International Conference on Emerging Technologies and Factory Automation (ETFA)*. 2022, pp. 1–4.

[C6] B. Vogel-Heuser, E.-M. Neumann, A. Zoitl, A. M. G. Fernandez, R. Rabiser, **H. S. Fadhlillah,** "An International Case Study on Control Software Development in Large-Scale Plant Manufacturing Companies of One Industrial Sector at Different Locations". In: *IECON 2021 – 47th Annual Conference of the IEEE Industrial Electronics Society*. 2021, pp. 1–8.

[C7] S. Sharma, **H. S. Fadhlillah**, A. M. Gutiérrez Fernández, R. Rabiser, A. Zoitl, "Modularization Technique to Support Software Variability in Cyber-Physical Production Systems". In: *Proceedings of the 17th International Working Conference on Variability Modelling of Software-Intensive Systems*. VaMoS '23. Odense, Denmark: Association for Computing Machinery, 2023, pp. 71–76. ISBN: 9798400700019.

[C8] P. Agarwal, S. Sharma, **H. S. Fadhlillah**, R. Rabiser, A. Zoitl, "Delta Models as a Measurement for Improving the Quality of IEC 61499-based Control Software". In: *2023 IEEE 28th International Conference on Emerging Technologies and Factory Automation (ETFA)*. 2023, pp. 1–4.

[C9] S. Sharma, **H. S. Fadhlillah**, A. M. G. Fernández, R. Rabiser, A. Zoitl, "Modular Control Software Design to Support Mechatronic Variants in IEC 61499". In: *2023 IEEE 28th International Conference on Emerging Technologies and Factory Automation (ETFA)*. 2023, pp. 1–8.

[C10] M. Oberlehner, B. Wiesmayr, **H. S. Fadhlillah**, A. Zoitl, "Visualizing Errors and Inconsistencies in the DSML IEC 61499". In: *Proceedings of the 11th International Conference on Model-Based Software and Systems Engineering, MODELSWARD 2023, Lisbon, Portugal, February 19-21, 2023*. 2023, pp. 143–151.

[C11] **H. S. Fadhlillah**, K. Feichtinger, A. M. Gutiérrez Fernández, R. Rabiser, "Dynamic Product Configuration User Interface: A Vision Motivated by the Cyber-Physical Production Systems Domain". In: *Proceedings of the 17th International Working Conference on Variability Modelling of Software-Intensive Systems*. VaMoS '23. Odense, Denmark, Association for Computing Machinery, 2023, pp. 88–90. ISBN: 9798400700019.

[C12] **H. S. Fadhlillah**, M. R. A. Setyautami, I. A. Rohma, E. K. Budiardjo, "Managing Customizable User Interface for Web Application Product Lines using Delta Modeling". In: *Proceedings of the 18th International Working Conference on Variability Modelling of Software-Intensive Systems*. VaMoS '24. Bern, Switzerland: Association for Computing Machinery, 2024, pp. 61–70. ISBN: 9798400708770.

[C13] M. R. A. Setyautami, **H. S. Fadhlillah**, D. Adianto, I. Affan, A. Azurat, "Variability management: Re-engineering microservices with delta-oriented software product lines". In: *Proceedings of the 24th ACM Conference on Systems and Software Product Line: Volume A - Volume A*. SPLC '20. Montreal, Quebec, Canada: Association for Computing Machinery, 2020. ISBN: 9781450375696.

❱ Proceeding of International Workshops

[W1] **H. S. Fadhlillah**, K. Feichtinger, L. Sonnleithner, R. Rabiser, A. Zoitl, "Towards Heterogeneous Multi-Dimensional Variability Modeling in Cyber-Physical Production Systems". In: *Proceedings of the 25th ACM International Systems and Software Product Line Conference - Volume B*. New York, NY, USA: Association for Computing Machinery, 2021, pp. 123–129.

[W2] **H. S. Fadhlillah**, R. Rabiser, "Towards a Product Configuration Representation for the Universal Variability Language". In: *Proceedings of the 28th ACM International Systems and Software Product Line Conference*. SPLC '24. Dommeldange, Luxembourg: Association for Computing Machinery, 2024, pp. 50–54. ISBN: 9798400705939.

[W3] **H. S. Fadhlillah**, S. Greiner, K. Feichtinger, R. Rabiser, A. Zoitl, "Managing Variability of Cyber-Physical Production Systems: Towards Consistency Management". In: *Proceedings of the ACM/IEEE 27th International Conference on Model Driven Engineering Languages and Systems*. MODELS Companion '24. Linz, Austria: Association for Computing Machinery, 2024, pp. 945–949. ISBN: 9798400706226.

[W4] **H. S. Fadhlillah**, D. Adianto, A. Azurat, S. I. Sakinah, "Generating adaptable user interface in SPLE: using delta-oriented programming and interaction flow modeling language". In: *Proceedings of the 22nd International Systems and Software Product Line Conference - Volume 2*. SPLC '18. Gothenburg, Sweden: Association for Computing Machinery, 2018, pp. 52–55. ISBN: 9781450359450.

❱ Tutorials & Tools Demonstration in International Conferences

[TD1] **H. S. Fadhlillah**, K. Feichtinger, P. Bauer, E. Kutsia, R. Rabiser, "V4rdiac: Tooling for Multidisciplinary Delta-Oriented Variability Management in Cyber-Physical Production Systems". In: *26th ACM Int'l Systems and Software Product Line Conf. - Volume B*. ACM, 2022.

[TD2] M. R. A. Setyautami, **H. S. Fadhlillah**, A. Azurat, "PRICES: towards web-based product lines generator". In: *Proceedings of the 25th ACM International Systems and Software Product Line Conference - Volume A*. SPLC '21. Leicester, United Kingdom: Association for Computing Machinery, 2021, p. 209. ISBN: 9781450384698.