



ANGGHA 'STEFAN' NUGRAHA

EDUCATIONS

PhD in Computer Science – Czech Technical University (ČVUT)

2025 - present

- Supervisor: doc. Dipl.Ing. Stefan Ratschan, Dr.-tech
- Research focus: Automated reasoning, SMT solvers, verification

PhD in Mathematics – University of Canterbury (NZ)

2014 - 2019

- Thesis title: Naïve Infinitesimal Analysis.
- Supervisor: Dr. Maarten McKubre-Jordens and Dr. Hannes Diener.

Master of Computer Science – University of Indonesia (IDN)

2011 – 2012

- Thesis title: Verification of Square Matrix Multiplication Algorithm using Hoare Logic.
- Supervisor: Dr. Ade Azurat
- One of the three students (among 20 students) who graduated in 3 semesters (from the normal 4 semesters) with the highest GPA: 3.69 out of 4.

Bachelor of Science in Mathematics – University of Indonesia (IDN)

2006 – 2009

- Thesis title: Generating Function Application to DNA Sequencing.
- Supervisor: Dr. Kiki A. Sugeng and Dr. Denny R. Silaban
- One of the seven students (among 60 students) who graduated in 7 semesters (from the normal 8 semesters) with GPA: 3.40 out of 4.

WORKS

There is a gap between 2019-2024 due to taking up religious vocation in some monasteries. This counts as a break in my academic age.

Associate Scientist

Institute of Computer Science, Czech Academy of Sciences, Prague

September 8, 2025 - present

Member of the Department of Artificial Intelligence. Research involving automated reasoning, SMT solvers, and AI methods. Currently pursuing a second PhD in related areas.

Lecturer (Assistant Professorial Fellow 5)

Institute of Mathematics, The University of Philippines - Diliman

August 01, 2024 - July 31, 2025

PROFILE

<https://stefannug.github.io/>

Enthusiastic researcher with a PhD in Mathematics and a Master's in Computer Science (formal verification), passionate about learning and applying logic and formal methods to AI-assisted theorem proving and automated reasoning. Currently expanding expertise in machine learning to bridge formal methods with AI.

CONTACT

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AREAS OF INTEREST

Formal Verification
(Non-)Classical Logic
Foundation of Mathematics
Formal Mathematics
Mathematical Analysis
ML and AI (developing)
Constructive Mathematics
Philosophical Logic

Deliver undergraduate lectures and exams; prepare teaching materials.

Tutor

School of Mathematics and Statistics University of Canterbury, NZ
2015–2018

Leading tutorial classes (about 20 students in one class); marking exams; proctor for quizzes and exams.

Lecturer and Researcher

Faculty of Computer Science University of Indonesia
2012–2014

Preparing and giving classes on the subjects assigned by the Dean; making, giving, and marking exams; managing some teaching assistants; member of Formal Methods in Software Engineering lab.

Teaching Assistant

Faculty of Computer Science University of Indonesia
2011–2012

Helping students to understand some courses, e.g. Discrete Mathematics, Calculus, Linear Algebra.

Lab Assistant

Department of Mathematics University of Indonesia
2007–2009

Helping students to understand some computer languages (C, C++, Java), Matlab, Maple.

Teaching Assistant

**Faculty of Economics University of Indonesia &
Department of Mathematics University of Indonesia &**
2008

Giving tutorial classes on Discrete Mathematics and Calculus.

PUBLICATIONS

Stefan Ratschan, Anggha Nugraha, Mikoláš Janota, Marek Dančo. *Inductive Satisfiability Certification for Universal Quantifiers and Uninterpreted Function Symbols*. arXiv:2602.16335 [cs.LO], **2026**. (submitted to IJCAR 2026)

Anggha Nugraha, M. McKubre-Jordens, and H. Diener. *Naïve Infinitesimal Analysis: Its Construction and Its Properties*. In arXiv.2009.11424 [math.LO], **2020**.

T. Antaresti, Anggha Nugraha, et al. *Wavelet denoising and fractal feature selection for classifying simulated earthquake signals from mobile phone accelerometers*. In IEEE 11th International Multi-Conference on Systems, Signals and Devices, **2014**.

M. Arzaki and Anggha S. Nugraha. *Translation of an Allen's Temporal Logic Variant to RPNL*. In *Journal of Mathematical and Computational Science* (3), **2013**, pages 1405-1429.

A. S. Nugraha and T. Basaruddin. *Analysis and Comparison of QR Decomposition Algorithms for Some Types of Matrix*. In *Proceedings of Federated Conference on Computer Science and Information System*, **2012**, pages 561-565.

CONFERENCES AND TALKS

New Zealand Mathematics and Statistics Postgraduate Conference

Auckland, New Zealand
2014, 2017, and 2018

Various informal talks in The Netherlands (especially at the University of Amsterdam) when doing research collaboration with Prof. Jan Bergstra

The Netherlands
2016

7th Non-Classical Logic: Theory and Applications

Toruń, Poland
2015

1st National Joint Seminar in Mathematics "Mengungkap Keindahan Matematika: National Seminar in Mathematics"

University of Indonesia, Indonesia
The Generating Function Applications for Counting The Number of Pattern Graph from Main Pattern Graph
2010

GRANTS AND SCHOLARSHIPS

LPDP Scholarship

Ministry of Finance of The Republic of Indonesia

2014-2019
Scholarship to do my PhD study at the University of Canterbury, NZ.

The New Zealand Mathematical Society (NZMS) Travel Grant

2016
Travel grant to do research collaboration with Prof. Jan Bergstra of the University of Amsterdam, The Netherlands.

The New Zealand Mathematical Society (NZMS) Travel Grant

2015
Travel grant to present my paper at "The 7th Conference on Non-Classical Logic: Theory and Application" in Poland.

IMHERE (Indonesia Managing Higher Education for Relevance and Efficiency) Scholarship for Master Study

2011-2012

ORGANISATIONS & SKILLS

Management and Leadership Skills

2011-2014

Member of Formal Method in Software Engineering Lab in the Faculty of Computer Science University of Indonesia

2011-2012

Member of Lembaga Asisten (association of teaching assistants) in the Faculty of Computer Science University of Indonesia.

2009

- Person in charge of Free Medical Service activity held by Catholic Student Association university of Indonesia.
- Person in Charge of Social Visit to Desa Putera Orphanage held by Catholic Student Association Faculty of Mathematics and Natural Sciences University of Indonesia.
- Committee in Indonesia Combinatory Community Gathering.
- Person in charge of Mathematics Team Competition LOGIKA Java-Bali held by the Department of Mathematics University of Indonesia.
- Presidium Leader of Faculty of Mathematics and Natural Sciences University of Indonesia Catholic Student Association.

Other Skills

- Language: Bahasa Indonesia (mother tongue), Fluent in English.
- Training: Matlab software Basic Training.
- Softwares/Languages: Ms. Office, Pascal, Maple, MatLab, SPSS, LaTeX, Linux, C, Java, Python.

REFERENCES

1. doc. Dipl.Ing. Stefan Ratschan, Dr.-tech.
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2. Dr. Maarten McKubre-Jordens
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3. Prof. Dr. Kiki Ariyanti Sugeng
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