ALEXANDER VANDENBROUCKE

PHD RESEARCHER IN PROGRAMMING LANGUAGES

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https://bitbucket.org/AlexanderV/

PROFILE SUMMARY

I caught the FP bug during my Master's Thesis, working on applying logic-programming techniques in a functional setting. I worked in the intersection of FP, LP and probabilistic programming, with a particular interest in semantics during my PhD. Currently a Quantitative developer (a "strat") at Standard Chartered Bank.

SELECTED PUBLICATIONS

- Fixing Non-Determinism. *Alexander Vandenbroucke, Tom Schrijvers and Frank Piessens.* In IFL'15, 2016.
- Tabling with Sound Answer Subsumption. *Alexander Vandenbroucke, Maciej Piróg, Benoit Desouter and Tom Schrijvers.* In TPLP special issue for ICLP 2016, 2016.
- PloNK: Functional Probabilistic NetKAT. *Alexander Vandenbroucke and Tom Schrijvers.* In PACMPL 4, POPL 2020, 2020.
- Disjunctive Delimited Control. *Alexander Vandenbroucke and Tom Schrijvers.* LOPSTR 2021. 2021. (Best Paper Award)
- Forward- or Reverse-Mode Automatic Differentiation: What's the Difference? *Birthe Van den Bergh, Tom Schrijvers, James McKinna and Alexander Vandenbroucke.* Science of Computer Programming, Volume 231, 2024.
- Rigged Contracts. *Alexander Vandenbroucke and Tom Schrijvers.* FLOPS 2024. 2024

OTHER SKILLS

- Academic writing and public speaking
- Co-organised IFL2016 Symposium
- Fighting on the fencing piste since 2001

WORK EXPERIENCE

QUANTITATIVE DEVELOPER

Standard Chartered | April 2021 - Present
I am part of a team that develops and maintains a back-end Haskell service delivering pricing quotes to traders. We own the entire software development process, from requirements to development, deployment, support and infrastructure.

PHD STUDENT

KU Leuven | August 2015 - December 2020
Until 2017, I worked on internal funding to apply advanced functional programming techniques to logic programming . In January 2017, I obtained external project funding from the FWO to investigate harnessing probabilistic programming for network problems (4 year project).

EDUCATION

KU LEUVEN

PhD : Engineering Science: Computer Science

- Grades are not conferred for Doctoral Degrees at KU Leuven
- Attended from 2015 to 2020

MSc : Engineering Science: Computer Science

- Graduated Magna Cum Laude
- Attended from 2013 to 2015

UNIVERSITY OF ANTWERP
BSc: Informatics

- Graduated Magna Cum Laude
- Attended from 2010 to 2013

PROGRAMMING SKILLS

Languages I'm really good at
- Haskell

Languages I know
- C/C++
- Java
- Python
- Prolog
- HTML/Javascript
- Dhall

Other
- Kubernetes / EKS