Arthur Thuy

PHD RESEARCHER AT GHENT UNIVERSITY

 (+32) 491 07 09 18 | ✉ arthur.thuy@telenet.be | 🏭 October 25th, 1998 | 🏠 arthurthuy.com | 🔗 arthur-thuy | 🎓 Arthur Thuy

Personal Profile

I am a PhD researcher in machine learning at the Faculty of Economics at Ghent University and at the CVAMO core lab at Flanders Make. I explore techniques for uncertainty estimation in neural networks, aiming to enhance their applicability in business decision-making by communicating when a model's output should (not) be trusted. I work primarily on applications in the manufacturing and educational domain.

Academic Experience

Ghent University   *Ghent, Belgium*
Ph.D., Data Analytics cluster of Business Economics   *Aug 2021 – Present*
- Research Foundation Flanders (FWO) fellowship project: "Semantic graphs for personalized intelligent tutoring systems"
- Supporting business decision-making with uncertainty estimation in neural networks
- Dissertation supervisor: Prof. dr. Dries Benoit

Ghent University   *Ghent, Belgium*
M.Sc., Business Engineering: Data Analytics   *Sep 2019 – Jul 2021*
- Grade: Summa Cum Laude
- Dissertation title: "Bayesian Deep Knowledge Tracing: Towards Uncertainty Estimation"
- Dissertation supervisor: Prof. dr. Dries Benoit

Ghent University   *Ghent, Belgium*
B.Sc., Business Engineering   *Sep 2016 – Jul 2019*
- Grade: Magna Cum Laude

Professional Experience

Everest Analytics   *Ghent, Belgium*
Machine Learning Engineer, part-time internship   *Sep 2020 – Nov 2020*
- Non-profit organization connecting students with a passion for data science to social impact organizations.
- Collaborated with a six-person team to develop models for predictive building control.
- Built neural network forecasting models with TensorFlow and Keras.

element61   *Brussels, Belgium*
Data Engineer, summer internship   *Jun 2020 – Aug 2020*
- Python web scraping of e-commerce websites.
- Microsoft Azure Data Storage and DevOps CI/CD.
- PySpark pipeline to extract, transform, and load (ETL) raw web data into clean data.
- Apache Airflow scheduling and orchestration of the workflow.

Skills

Programming	Python (Pandas, PyTorch, TensorFlow, Keras, NumPy, Scikit-learn., Matplotlib, etc.), R (ggplot2), SQL, Julia.
Miscellaneous	Linux, Shell (Bash/Zsh), LaTeX, Git, Microsoft Office.
Soft Skills	Time Management, Teamwork, Problem-solving, Presenting, Report Writing.
Languages	Dutch (native), English (fluent), French (intermediate), German (intermediate).

Honors & Awards

Nov 2021	**PhD fellowship**, Research Foundation Flanders (FWO)	*Brussels, Belgium*
Oct 2021	**Sofico Award**, Best student in Business Engineering – main subject Data Analytics	*Ghent, Belgium*

Publications

JOURNAL ARTICLES

Explainability through uncertainty: Trustworthy decision-making with neural networks
 Arthur Thuy, Dries F Benoit
 European Journal of Operational Research. Elsevier, 2023

PREPRINTS

Reliable uncertainty with cheaper neural network ensembles: a case study in industrial parts classification
　Arthur Thuy,　Dries F. Benoit
　　2024

Conference & Workshop Presentations

Mar 2024	**Flanders Make Symposium 2024,** Annual Scientific Conference of the Flanders Make research centre	*Kortrijk, Belgium*
Feb 2024	**ORBEL38,** Annual Conference of the Belgian Operational Research Society	*Antwerp, Belgium*
Mar 2023	**Flanders Make Symposium 2023,** Annual Scientific Conference of the Flanders Make research centre	*Antwerp, Belgium*
Jul 2022	**EURO 2022,** European Conference on Operational Research	*Helsinki, Finland*

Teaching Experience

Supervisor master theses

Responsible for the supervision of master theses in Business Engineering   *2021 – present*

Teaching assistant

Responsible for the courses Data Mining (F000759) and Machine Learning (F000942)   *Aug 2021 – Feb 2022*

Interests

Cooking	I love exploring Asian cuisine as it offers opportunities to express creativity and master new cooking techniques.
Motorcycles	Riding motorcycles brings me both a feeling of freedom and a strong sense of community with fellow riders.
Running	I enjoy running outdoors to clear my head and maintain overall fitness.