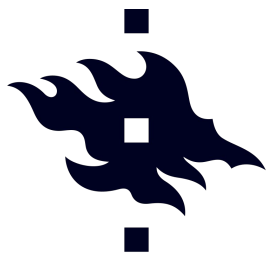


Intro to ProbAi — 2022

Luigi Acerbi & Arto Klami

Department of Computer Science

University of Helsinki



UNIVERSITY OF HELSINKI



An aerial photograph of a university campus, tinted in a solid blue color. The image shows several modern, multi-story buildings with flat roofs and large windows. In the center, a building features a sign with a stylized logo and the letters "EXA". To the right, a tall, narrow building has a large white spherical structure on its roof. The background is filled with a dense line of trees under a clear sky. The overall scene is a wide-angle shot from a high vantage point.

Welcome!

ProbAi — 2022

Outline (9:00–10:00)

- School practicalities and organization (Luigi)
- Probabilistic AI – What is it? (Arto)

The most important human need

WiFi

- Use **eduroam** if you have access (faster, better).
- Otherwise **probai2022** with password **Bayes2022**.

Code of conduct

<http://probabilistic.ai/attendees>

We aim for diversity, inclusion, openness, collaboration, and knowledge sharing.

1. Be welcoming and supportive.
2. Be respectful and keep a good tone.
3. Collaborate and share knowledge.
4. Respect personal boundaries.

COVID-19 precautions

- Please **wear a mask** indoors and when it is difficult to avoid close contact.
- Avoid or limit close contacts.
- Clean frequently your hands either by washing or with **sanitizer**.
- If you have light symptoms suggestive of COVID-19, **test yourself**.
- If you have obvious symptoms suggestive of COVID-19 (flu-like or respiratory) or test positively, do not participate and isolate yourself.

<http://probabilistic.ai/join-slack-2022>

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The screenshot shows a Slack interface with a dark purple sidebar on the left and a main content area on the right. The sidebar has a header with 'ProbAI 2022' and a search icon. Below it are links for 'All DMs' and 'Slack Connect'. A list of channels follows: 'More', 'Channels' (with sub-items '# day-1', '# day-2', '# day-3', '# day-4', '# day-5', '# general' (highlighted), '# probai-2022', '# random', and '+ Add channels'), and 'Direct messages' (with 'Luigi Acerbi you' and '+ Add teammates'). The main content area shows the '# general' channel. At the top, it says '# general' with a dropdown arrow. Below that is a '+ Add a bookmark' link. A notification bubble says 'You're looking at the # general channel. This is the one channel that will always have messages.' Below this are links for '+ Add people' and 'Forward emails to this channel'. A message from 'tarik' at '1:05 AM' says 'joined #general along with 19 others'. At the bottom is a message input area with a toolbar containing icons for bold, italic, strikethrough, link, list, code, and a text input field with the placeholder 'Send a message to #general'. Below the input field are icons for adding people, attachments, emojis, and a text formatting icon.

ProbAI 2022

All DMs

Slack Connect

general

+ Add a bookmark

You're looking at the # general channel
This is the one channel that will always have messages.

+ Add people

Forward emails to this channel

tarik 1:05 AM
joined #general along with 19 others

B I ~~ABC~~ 🔗 ☰ ☷ ☰ </>

Send a message to #general

+ 📎 🗣️ 😊 @ Aa

general

How to contact us

1. In person!
2. Email: hello@probabilistic.ai
3. Slack
4. Anonymous online form

Ombudsperson
(anything to report):



Arto
Klami

Program overview

<http://probabilistic.ai/program>

- Any lunch from the line
- Coffee **OR** fruit
- **NO** dessert



ProbAi — 2022

Mon 13/6	Tue 14/6	Wed 15/6	Thu 16/6	Fri 17/6
07:30 – 09:00 Registration Exactum building, University of Helsinki, Pietari Kalmin			08:15 - PhD Course (only re	
09:00 – 10:00 Probabilistic AI: Exactum building, University	09:00 – 12:00 Variational Inference and Optimization 1 - Helge Langseth, Andrés R. Masegosa, Thomas D. Nielsen Exactum building, University of Helsinki, Pietari Kalmin	09:00 – 12:00 Deep Generative Models - Rianne van den Berg Exactum building, University of Helsinki, Pietari Kalmin	09:00 – 12:00 Neural ODEs - Çağatay Yıldız Exactum building, University of Helsinki, Pietari Kalmin	09:00 – 12:00 Bayesian Neural Networks (with VI flavor) - Yingzhen Li Exactum building, University of Helsinki, Pietari Kalmin
10:00 – 12:30 Introduction to Probabilistic Models - Antonio Salmerón Exactum building, University of Helsinki, Pietari Kalmin				
12:30 – 13:30 Lunch Unicafe Chemicum, A.I.	12:00 – 13:00 Lunch Unicafe Chemicum, A.I.	12:00 – 13:00 Lunch Unicafe Chemicum, A.I.	12:00 – 13:00 Lunch Unicafe Chemicum, A.I.	12:00 – 13:00 Lunch Unicafe Chemicum, A.I.
13:30 – 15:00 Probabilistic Modeling and Programming - Andrés R. Masegosa, Thomas D. Nielsen Exactum building, University of Helsinki, Pietari Kalmin	13:00 – 15:00 Variational Inference and Optimization 2 - Helge Langseth, Andrés R. Masegosa, Thomas D. Nielsen Exactum building, University of Helsinki, Pietari Kalmin	13:00 – 15:00 Normalizing Flows - Didrik Nielsen Exactum building, University of Helsinki, Pietari Kalmin	13:00 – 15:00 Simulator-Based Inference (Concept + ELFI Tutorial) - Henri Pesonen Exactum building, University of Helsinki, Pietari Kalmin	13:00 – 15:00 BNN Advanced - José Miguel Hernández-Lobato Exactum building, University of Helsinki, Pietari Kalmin
16:00 – Coffee Break	16:00 – Coffee Break	16:00 – Coffee Break	16:00 – Coffee Break	
15:00 – 17:00 Bayesian Workflow - Exactum building, University	15:00 – 17:00 Variational Inference	15:00 – 17:00 Gaussian Processes - Exactum building, University	15:00 – 17:00 Human-Centric ML -	
18:00 – 20:00 Visit to Unity Technologies (group 1) Kaivokatu 6 6th floor, 00100 Helsinki, Finland	17:30 – 18:30 Poster Session 1 Exactum building, University		17:30 – 18:30 Poster Session 2 Exactum building, University	
20:00 – 22:00 Visit to Unity Technologies (group 2) Kaivokatu 6 6th floor, 00100 Helsinki, Finland		19:00 – 22:00 Banquet / Dinner Porthania, Yliopistonkatu 3, 00100 Helsinki, Finland		

Visit to Unity Technologies (today)



- **Group 1** (18:00 - 20:00) – go straight after lectures.
- **Group 2** (20:00 - 22:00) – optional sightseeing first.



Everyone: Sign up to Unity Technologies invite (**Envoy** app / website).



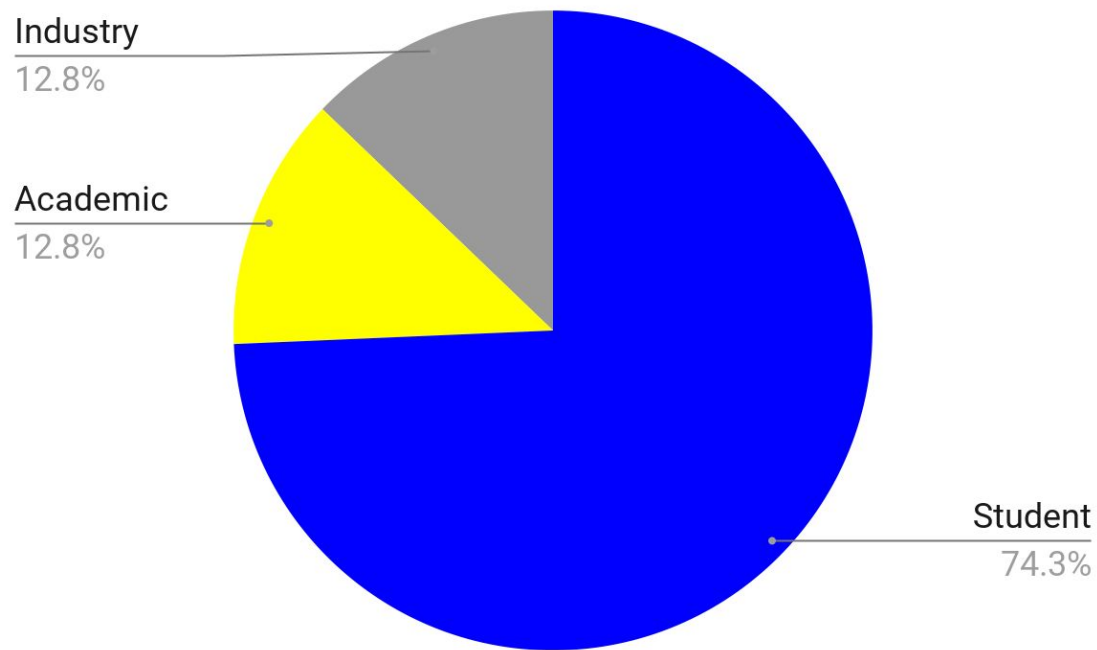
Statistics

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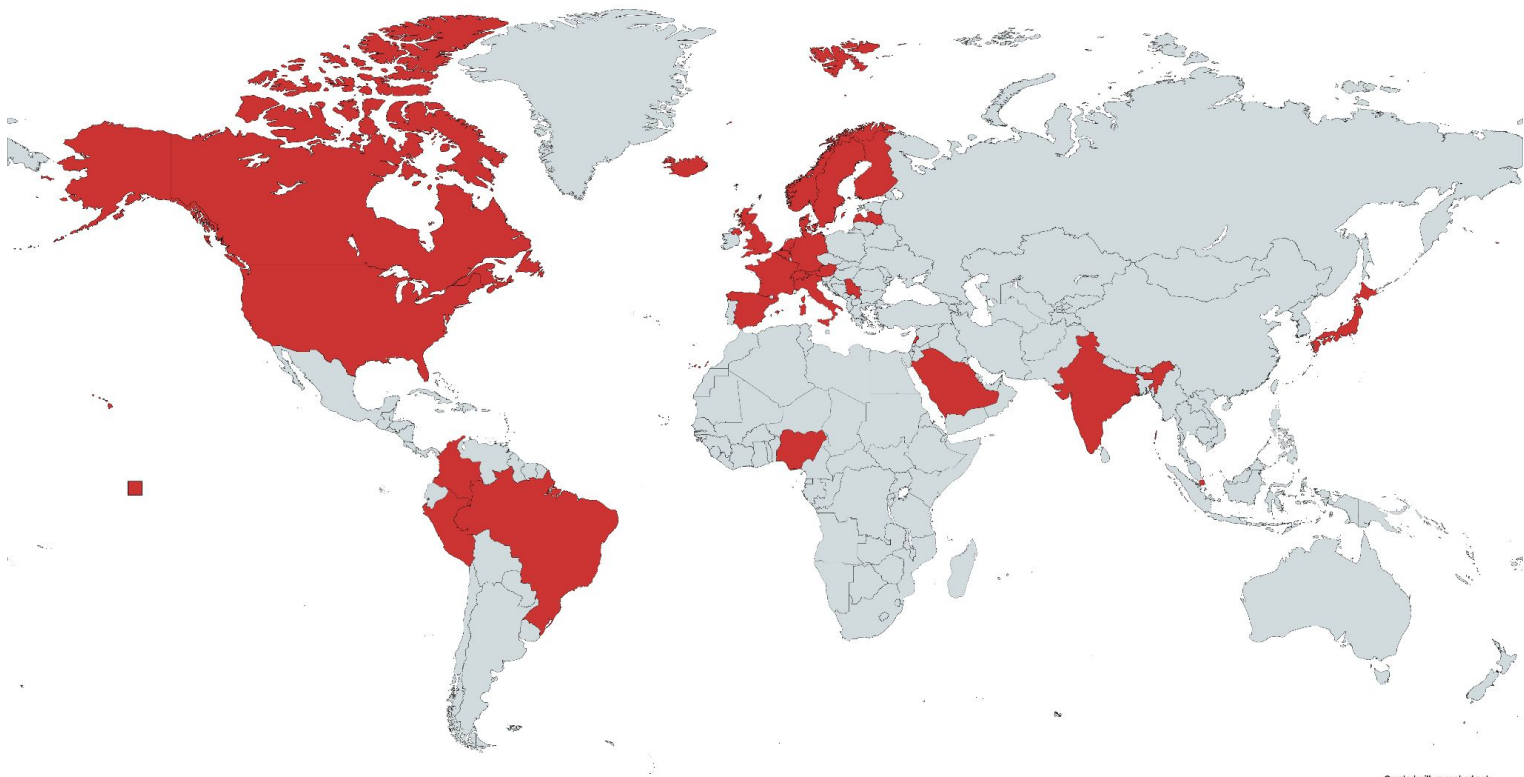
Applications

- We had a record **775 applications**.
- Could only accept **150 participants** (~19% acceptance rate).
- It was a very difficult choice!

Affiliations



Country of residence



Created with mapchart.net

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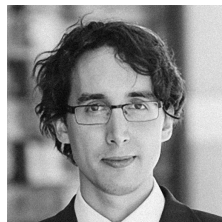
Lecturers & speakers



Rianne van
den Berg



Fani
Deligianni



J. M. Hernández-
Lobato



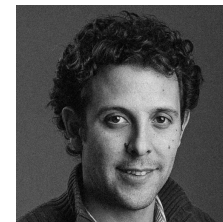
Arto Klami



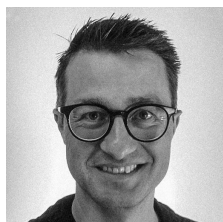
Helge
Langseth



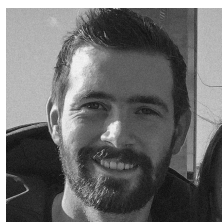
Yingzhen Li



Andrés R.
Masegosa



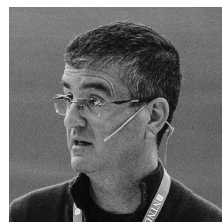
Thomas Dyhre
Nielsen



Didrik
Nielsen



Henri Pesonen



Antonio
Salmerón



Elizaveta
Semenova



Arno Solin



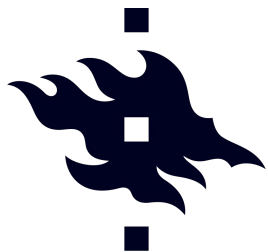
Çağatay
Yıldız

An aerial photograph of a university campus, overlaid with a solid blue color. The image shows several modern academic buildings with flat roofs and large windows. In the center, a building features a logo and the letters 'EXA'. To the right, a tall, narrow building is topped with a large white spherical structure, likely a radio telescope or antenna. The background shows a dense line of trees under a clear sky.

Acknowledgments

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Organizers



UNIVERSITY OF HELSINKI

FCAI Finnish
Center for
Artificial
Intelligence



 **NTNU**
Norwegian University of
Science and Technology

Gold Sponsors

NOKIA Bell Labs



ProbAi — 2022

ProbAI team

Team of Directors



Luigi Acerbi



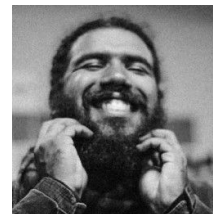
Arto Klami



Helge
Langseth



Tárík S.
Salem



Eliezer de
Souza da Silva

Executive Team



Grégoire
Clarté



Mikko A.
Heikkilä



Denys
Iablonskyi



Sardana
Ivanova



Ti John



Ludvig
Killingberg



Tomasz
Kuśmierczyk



Ella
Tamir



Valter
Uotila

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