

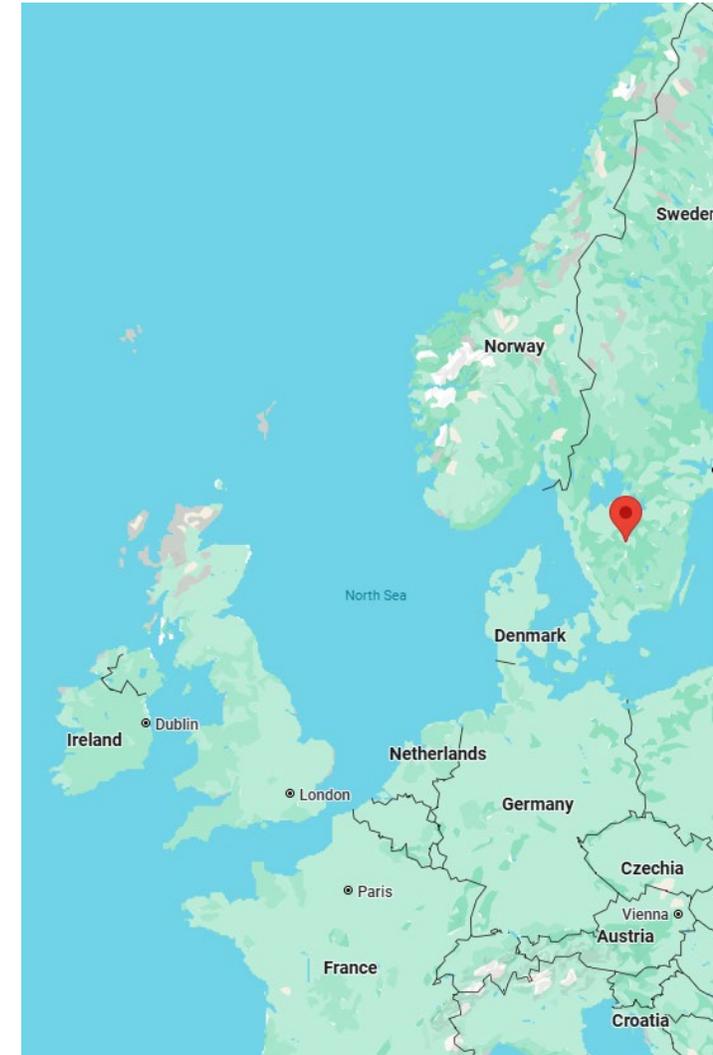
# Neurodiversity in CSA

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# About me

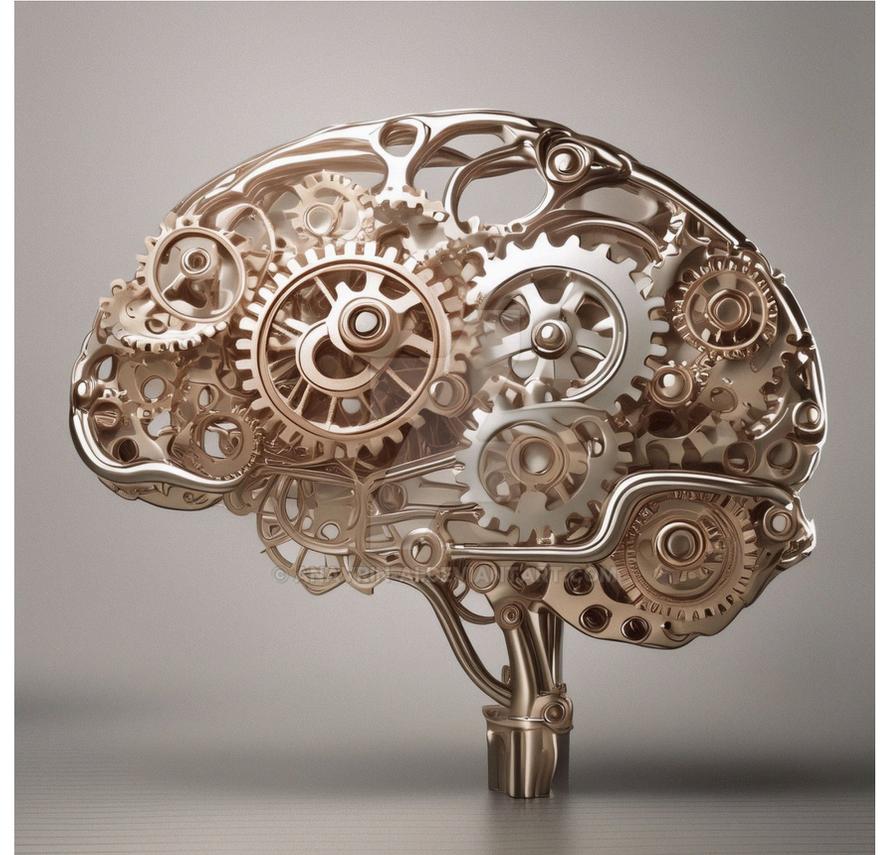
- Assistant professor in Computer science
  - Jönköping University since 2023
  - University of Skövde since 2014
  
- Part of our Cybersecurity and Privacy Research Group
  - [Ju.se/cpr](https://ju.se/cpr)
  - Focus on socio-technical privacy and cybersecurity
  
- My main topics are user behavior and awareness
  
- Member of ENISA ad-hoc group for awareness raising





# Neurodiversity

- Differences in how people's brain works
  
- Focus here on cognitive diversity
  - Differences in our cognitive abilities
  
- Cognitive abilities include
  - Learning ability
  - Memory
  - Reasoning
  - Problem solving
  - ...



# Relevance for cybersecurity?

- Phishing
  - Detect cues and reason about email legitimacy
  
- Account setup
  - Interpretation of password rules
  - Creation and memorization of passwords
  
- CAPCHAS
  - Problem-solving
  
- Email writing
  - Spelling and style important to be seen as legitimate

# Some impact

- We can see cognitive energy as a finite resource
  - Cognitive tasks consume cognitive energy
  - Once we are low on energy, we get tired
  - Once we run out....well...we can't do anything
  
- In our studies, we found a few key takeaways
  - Neurodivergent users have less energy than others to start with
  - Yet, cybersecurity tasks are more costly than for others
  - And some tasks are completely incapacitating
  - As a consequence, they adopt a lower security posture than they would like

# Why bother?

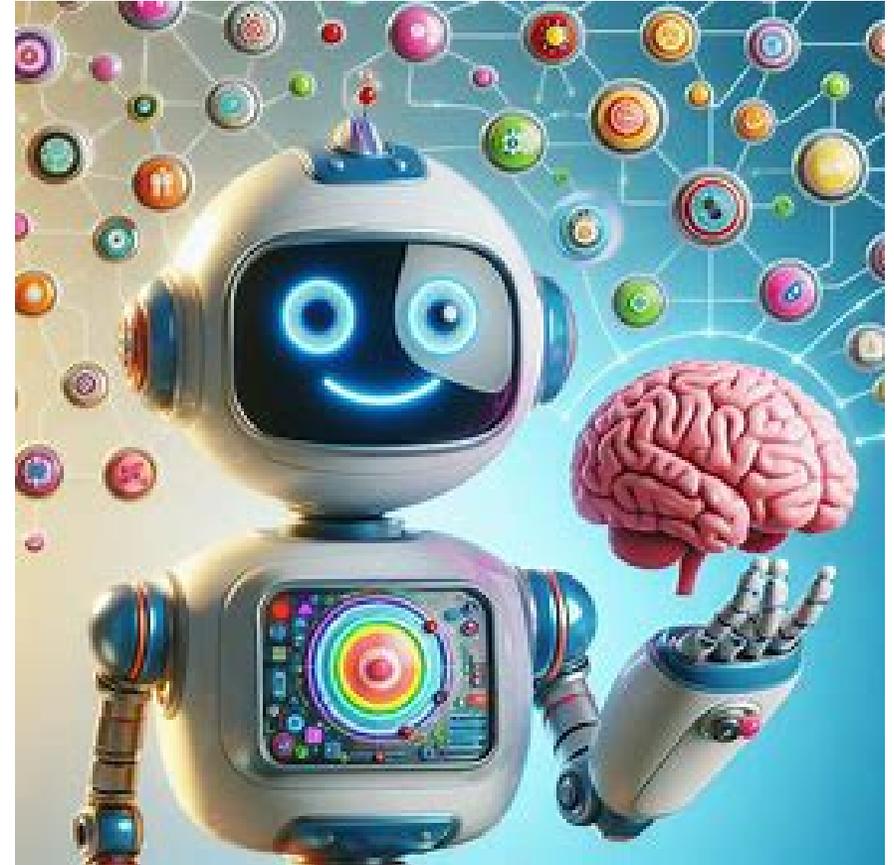
- This is an inclusion issue
  - The digital world is for everyone
  - Neurodivergent users are sometimes more in need of public systems than others
  
- It is both a corporate and personal security issue
  - Many people are neurodivergent (up to 15%)
    - Autism
    - ADHD
    - Dyslexia
    - Brain injury
    - Age
    - ...
  
- Neurodivergent users are part of the workforce and use the digital just like anyone else

# Why bother?

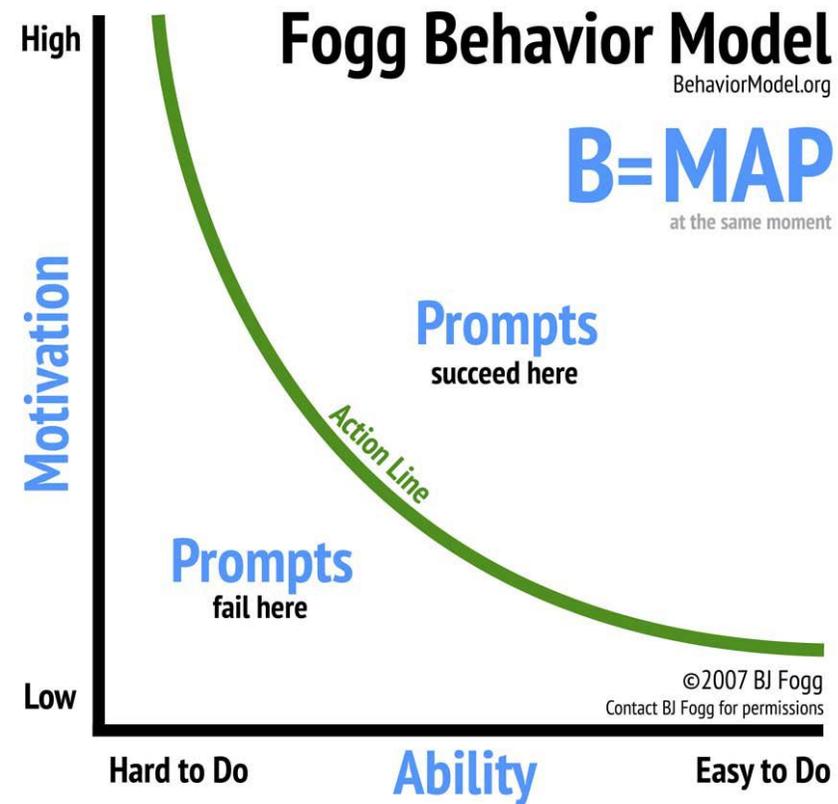
- On top of that, the cognitive ability of anyone is not a solid state
  
- Our cognitive ability changes with
  - Age
  - Energy
  - State of mind
  - ....
  
- To be secure, systems must be secure even when the user's cognitive ability is permanently or temporarily lowered

# A secure system is one that is easy for anyone to use

- Research clearly shows that users are more likely to adopt suggestions that they can easily follow
- Very important for all users and crucial for neurodivergent users
- Awareness is not only about how we communicate, but also about what we communicate



# Fogg behavior model



# What can we do?

- Ensure a message that is easy to understand
- Support users when they need to be supported
- Provide users with the support they need
- Include accessibility functions
- **Reconsider rules and tools**

# Thank you for listening!

Feel free to get in touch!

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