

**Runtime Categorization at nonoRank**

*We envision a web free of malicious connections and fakes sites.*
*A web in which privacy is not hard to use or not properly functioning.*
*A web trusted by everyone and at the same time fun to explore.*

*Welcome to the search engine of the 21st Century*

**Company**

nonoRank attempts to create a safe portal to the web. At the moment the company focuses on a web search engine compliant to GDPR policies, advanced encryption, and safety, without selling users data or tracking them. At the same time using a new style and design compliant to a search engine of the 21st century. We encourage users and companies to take back their integrity online without spreading their information unless strictly necessary, while at the same time having fun with online queries.

**Positions:** "Runtime Web Engine Classification for HyperLex" (1) & "Spectral Ranking for Web-Adult-Content" (2)

We offer two master thesis projects related to web classification and page-ranking:

1) The first position includes detecting and classifying web pages collected by our web crawlers and classify them once the system runs a query. Basically the position includes developing an algorithm that will be able to categorize the web ONLINE with a low computational complexity. This needs to be experimented with our engine in order to see if there are improvements from either relevancy or speedness.

   - Reading and understanding articles about web ranking and classification.
   - Developing a tool for detecting categories based on natural language processing and mathematical models.
   - Other interesting points and insights from the student

2) The second position includes detecting which one is adult content and which is not. The web is nowadays used widely, and adult websites and contents are a huge part of it. Therefore the student needs to read the literature about adult ranking, model classification and be able to detect and indentify the majority of these website and filter them out with OFFLINE and/or ONLINE approximation techniques.

   - Reading and understanding articles about web adult ranking and adult-classification
• Developing a tool for detecting adult categories based on natural language processing and mathematical models.

• Other interesting points and insights from the student.

Offer
• The position is located in Ultuna, Ulls väg 29C (Green Innovation Park).
• Fika is included at our offices.
• The student will be supported side by side with one of our experts on the field.
• You will work in the first Scandinavian Search Engine.

Responsibilities
• Analyze and understand the computational complexity of the classifiers.
• Having a clear distinction for OFFLINE and ONLINE algorithms approximations.
• Design an algorithm for classifying in runtime query-based web content within the specific purpose.
• Analyze and test such algorithm with its complexity, faults and limits.

Requirements
• Advanced Algorithms and Complexity (the course Algorithms and Datastructures III is not mandatory but is a huge plus from the student side).
• Familiarity with algorithms complexity and approximation terminology.
• Understanding the basics of NLP (Natural Language Processing).
• Problem solving skills and ability to work under pressure.
• BS degree in Computer Science or related field.