



YEARS OF EXPERIENCE

Personality

Ambitious

Nature lover



Skills

Python HTML CSS Gitlab AI SQL JavaScript Matlab Git Github Subversion Agile Docker Windows Linux Microsoft Office QGIS PyCharm VSCode Jupyter Notebook Conda PostgreSQL PGvector PostGIS Snowflake Cortex SQLite draw.io Apache Azure OpenAl Pandas Scikit-learn Numpy Pydantic Shapely Fiona Machine Learning PyTorch Geopandas **PyQGIS** Rasterio Matplotlib Basemap Streamlit Bokeh Dash Plotly Folium Seaborn Flask FastAPI YAML Scipy Statsmodels Satpy Tkinter Kivy Alembic Pytest Unittest JSON netCDF

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Introduction

Johannes is an experienced and gifted developer with a strong problem-solving mindset. He has extended experience and a special interest in data science/data engineering. He prefers interactive processes, involving stakeholders and a relevant team early on in the project. That way he can ensure involvement in the requirement process and create the baseline for communication in the project. His greatest technical strengths are in python and data management. Johannes has a strong sense of responsibility and has great interpersonal skills, besides his technical palate, Johannes is a warm, professional person with a helpful attitude which makes him a great Project Manager or part of a team. Github: https://github.com/johannesocean Medium: https://medium.com/@johannes.ocean

Work Experience

Software Engineer Level 3 / Senior Data scientist / Volvo Cars Corporation 2024 Q3 - Ongoing

As a Python developer / Senior Data Scientist at Volvo Cars Safety Centre, I apply advanced data analytics to understand accident causation, driving safety enhancements in car development.

My primary role involves:

- developing and maintaining advanced dashboards using Streamlit.

- working extensively with complex data sets, conducting data processing using mainly Pandas, and Numpy.

- development of a Chatbot-RAG solution using Azure OpenAI, Langchain, PGVector and ChromaDB. - work with Unittest employing Pytest.

- development and maintaining of a machine learning project that implements a pretrained resnet model from NASA.

Python	Streamlit	Unittest	Docker	Azure	Snowflake Cortex	Pandas
Numpy	PGVector	ChromaDB AI		RAG LLM Output Parsing		Langchain
English						

Chatbot-POC, Developer / Data Scientist / Svensk Byggtjänst 2023 Q4

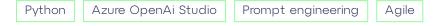
The work largely entailed breaking down the AMA library into manageable chunks and creating embeddings from these data sets. Utilization of an Azure OpenAI model (inside EU borders) and vector similarity search in Postgres using pgvector, ultimately provided optimized embedding matches and responses.

Backend	Python	FastAF	PI SQLAIch	emy	PostgreSQL	PGvector	Alembic
Docker	Git O	penAl	Embeddings	Agi	le		

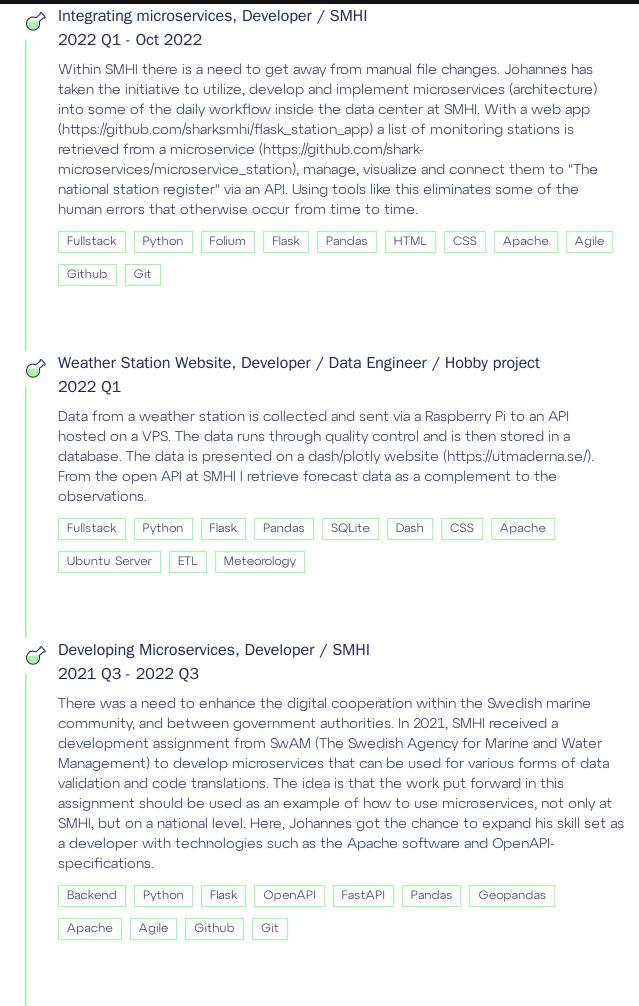
Chatbot-POC, Developer / Data Scientist / Erik Olsson 2023 Q2

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Implemented few-shot learning in a chatbot designed to generate real estate advertisements for houses and apartments.



6	Integration-API, Developer / Belid lighting group 2023 Q2-Q4						
The work involved developing an API that is responsible for shipping inform from the Sanity CMS to a Centra system using webhooks from Sanity and G queries and mutations to Centra. Another key responsibility of the API was update the inventory balance in a Monitor database. This involved regularly for updates and synchronizing inventory information between the various s							
	Backend Python FastAPI Pydantic Sanity CMS GraphQL Git Agile						
6	Chatbot-Al-API, Developer / Data Scientist / Fortum 2023 Q2						
	As part of a team, Johannes assumed the primary responsibility for setting up the main structure of the chatbot API, utilizing the FastAPI framework. Within the project we employed OpenAI's LLM and GPT models, embeddings, and langchain for enhanced language understanding and implemented precise prompts to improve user experience. Additionally, Johannes managed code using Git, collaborated effectively in an agile international environment.						
	Backend Python FastAPI Pandas Streamlit OpenAI AI LLM GPT						
Ś	Embeddings Langchain Prompt engineering Git Agile English Machine Learning-API project, Developer / QueensLab Nov 2022 - 2023 Q1						
	 Without revealing too much, this is an inhouse project with focus on setting up the following: An API using FastAPI Database CRUD-handling with SQLAIchemy Database migrations using Alembic Text recognition using Azure Text Analytics Azure Blob Storage OpenAl integrations (embeddings) 						
	Backend Python FastAPI SQLAlchemy PostgreSQL Alembic Azure						
	Docker Git OpenAl Agile						



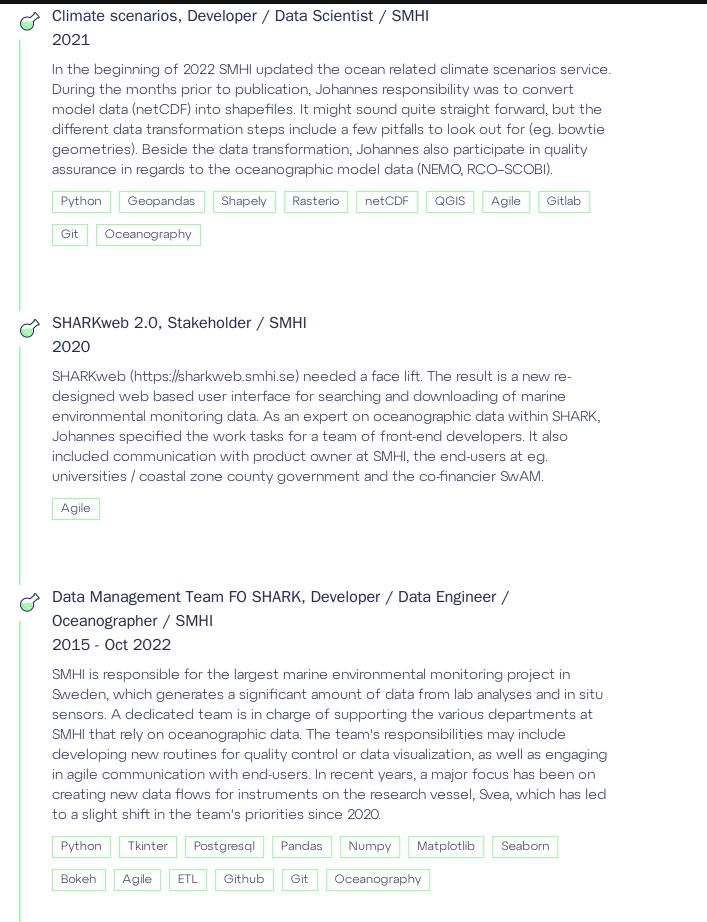
GIS-system - Satellite Algae Surveillance, Developer / Data Scientist / SMHI $\widehat{}$ 2019 - Oct 2022 During summer time SMHI operates the "Algae situation". In 2019, with the aim of replacing the old system, Johannes started to develop a new python plugin for QGIS (Quantum Geographic Information System), which allows the user to manually adjust algae maps based on satellite data. The plugin is used daily by SMHI personal for creation of algae maps. The main data formats are shape- and raster files. The work also contained alot of data aggregations, -analysis, -visualization. Some final products can be seen in this annual report (https://www.smhi.se/publikationer/publikationer/cyanobakterier-i-ostersjonsommaren-2022-1.191705) QGIS Python PyQGIS Fiona Rasterio Shapely Geopandas Numpy Matplotlib Seaborn Pandas Agile ETL Oceanography Svea - Dataflows, Developer / Data Scientist / SMHI $\widehat{}$ 2021 Q3 - Oct 2022 R/V Svea is the top notch research vessel aimed for marine monitoring over Swedish waters. A large team at SMHI (oceanographers, marine biologists, scientists, technicians and developers) was given the means by the Swedish government to work with setting up a sustainable data flow (from the ocean to story telling products). Johannes work revolved around setting up data structures, quality control routines and visualize data aggregations. Python Pandas Numpy Matplotlib Seaborn Bokeh JavaScript ETL Github SQLite Git Oceanography

SHARKvalidator, Developer / SMHI 2021-2022

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In the work against bad data the Oceanographic data center at SMHI needed open and transparent validation of data deliveries. Johannes pushed for a new code structure, published at https://github.com/sharksmhi/sharkvalidator. The standard validation routines checks: mandatory data types (metadata, data), mandatory data fields, data formats.





Data Host, Developer / Data Engineer / Oceanographer / SMHI 2015 - Oct 2022

SMHI is, on behalf of SwAM, the national data host for oceanographic and marine biological data. The "data treasure" dates back to the year 1893, enabling scientists, students and authorities to explore time series of e.g. temperature, oxygen conditions or algal blooms. Data is accessible via SHARKweb and the SHARKdata API. The data host's mission is to quality control, store and make data available with an open license, in a transparent manner. Within the framework of the assignment, Johannes used his experties in physical oceanography and passion for python programming to develop tools that reduce manual work and facilitate: handling, quality control and visualisation of data. As a data host, a big part of the daily work involves interacting with data providers to ensure the delivery of high-quality data and metadata. Effective communication with these data providers is essential to achieve this goal. Furthermore, Johannes was responsible for the annual international reporting of physical and chemical oceanographic data to ICES (International Council for the Exploration of the Sea).

Python	Bokeh	Matplotlib	Seab	orn	Numpy	Pandas	Geopandas
Folium	Subversio	on Agile	ETL	Oce	eanography	'	

Education

- M.Ed., Physical Oceanography / University of Gothenburg, Gothenburg
 2013–2015
- B.S., Oceanography / University of Gothenburg, Gothenburg
 2010–2013
- Natural Science Base Year / University of Gothenburg, Gothenburg 2009–2010
- Military service, Medic / T2 Regiment, Skövde 2006-2007
- Technology Data / Upper Secondary School Lindälv, Kungsbacka 2003-2006

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