Jacob William Kragh Phillips

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Software Developer, Full Stack

As a newly graduated software developer with a keen interest for solving complex problems, I thrive on creating innovative and impactful solutions. With a structured and analytical mindset, I am particularly keen on full-stack development, where I can contribute to building robust and user-centric applications.

Professional Experience

Vokalo September 2023 - December 2023
Software Developer Intern *Århus*

- Design and implementation of a Linux-based software controller for charging stations, with a focus on robustness and performance.
- Automation of test environments for the Raspberry Pi Compute Module and automated setup of Linux environments.
- Development of a Linux-based network router using the Raspberry Pi Compute Module 4 for optimized network management.
- Implementation of a solution for remote access under Double NAT/CGNAT for secure remote control.
- Integration of Mender for OTA (Over-the-Air) software and OS updates for efficient maintenance.
- Development of a REST API with FastAPI in Python for test environments, serving as an intermediary between the end-user and control of the Raspberry Pi system.

KMD September 2022 - February 2023
Student Assistant *Aalborg*

- Contributed to the development of UX and UI components for KMD Clubtimiser, a web-based CRM solution based on Microsoft Dynamics 365 for sports clubs.
- Optimized the UI dashboard for customer information with a focus on usability and efficient data presentation.
- Improved user experience by applying HCI (Human-Computer Interaction) principles.

Education

Aalborg University 2022 - 2024
Master of Science (MSc) in Medialogy *Aalborg*

- Machine learning, Image & sound classification
- Web application
- Mobile application, Flutter App development, Dart, Firebase
- Search Algorithms
- Python, FastAPI, Flask, PostgreSQL
- Geographic information system(GIS), OpenStreetMap

Master's Thesis Problem Statement: Generation of preferences based on walking routes in Aalborg city
Methods: Machine Learning (ResNet) for recognition of Street View images, A* for searching in node system
Results: Over 90% accuracy in image recognition and positive results with user-defined weighting for A* algorithm

Aalborg University 2019 - 2022
Bachelor of Science (BSc) in Medialogy *Aalborg*

- Virtual Reality programming
- Sound and image processing
- Development of web and complex software systems, object-oriented programming (OOP)
- Interaction design, Human-computer interaction (HCI)
- Java, Python, C#, HTML/CSS/Javascript

Selected Projects

Discount Finder - Web application for tracking Salling discount food products 2024
***Backend**: Python, FastAPI, PostgreSQL **Frontend**: React, Next.js, TypeScript, Tailwind CSS*

- Live Demo at **https://discountfinder.vercel.app**
- Developed a full-stack web application for tracking food discounts on items in Salling Group supermarkets (Føtex, Netto, Bilka, Salling).
- Implemented data processing workflows using Python to store daily product and price data from the Salling API in a PostgreSQL database.
- Designed and developed the front end using React with Next.js, incorporating TypeScript and Tailwind CSS for a responsive user interface.
- Built a RESTful API in FastAPI to establish an interface between frontend applications and the database.
- Created batch-processing scripts in Python for daily updates of the database with new discount information.

Visualization of Walking Routes in Aalborg Using A* and Mapbox on OSM Data 2024
*Python, HTML/CSS/Javascript, FastAPI, OpenStreetMap (OSM), GeoJson, A**

- Developed a Python-based web application to visualize the A* algorithm.
- Integrated OpenStreetMap data for node mapping and used Mapbox JS for real-time map rendering.
- Enabled users to select preferences and perform A* search within a selected area to generate walking routes.
- Implemented a custom street view experience allowing users to virtually walk the generated routes.

Flutter Chat App for Android - Chatbot for Stroke Patients 2023
Python, Flutter Framework, Dart, Firebase

- Developed a comprehensive Flutter-based Android application connected to an online database.
- Created a chatbot knowledgeable in stroke recovery and general health improvement.
- Integrated a robust notification system with custom notifications and action buttons.
- Responsible for UI/UX design, backend integration, database management, and app development.
- Created Python scripts to send notifications to the application and specific users.

Technical Skills

- **Field of expertise**: Human-Computer Interaction (HCI), UX, UI, Web-development
- **Programming languages**: Java, Dart, Python, C#, C++ HTML/CSS/JavaScript/Typescript, SQL
- **Frameworks, Database and libraries**: Node.js, Flutter, FastAPI, Django, PostgreSQL, MongoDB, Firebase, React, Next.js, Tailwindcss
- **Tools**: Git, Linux, Jira, Docker, Postman

About Me

In my leisure time, I enjoy both computer games and classic board games with friends and family. I also love immersing myself in hobby projects and challenging myself with daily LeetCode problems. When I take a break from the screen, I unwind by listening to music, cooking, or hiking in the Danish countryside. I've also had the pleasure of serving as an AAU Buddy, helping international students acclimate to life in Denmark.