JAKUB ZOLKOS

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Skills

Languages & Scripting: Python · C/C++ · HTML/CSS · JavaScript · SQL · MATLAB · MIPS Assembly · Git · Bash · Linux/UNIX

Web Development: Django · Flask · PostgreSQL · React · TailwindCSS · Docker

AI & Data Analysis: TensorFlow · Scikit-learn · Pandas · Numpy · Matplotlib

Experience

Engineering Product Innovation Center
Boston, MA

Backend Developer
01/2021 - Present

- Developed a Django application with a PostgreSQL student database for authorizing entry to the facility, enabling migration from a file-based storage system
- Integrated the website with the employee clock-in system leveraging personal access cards and Homebase API
- Implemented a student survey collection functionality and administrator panel in the application, allowing management to view visualized statistics of 1000+ past visitors

VIP Laboratory
Boston, MA

Data Analyst & Research Assistant
02/2022 - 01/2023

- Collaborated with 5+ people in designing a state-of-the-art convolutional neural network that estimates room occupancy leveraging a system of overhead fisheye cameras
- Developed an optimized algorithm for producing smooth density heat-maps from bounding box data, decreasing program execution time from 15 minutes to 5 seconds
- Saved 10+ hours of weekly work for team members by simplifying data transfer between local and remote machines with an ensemble of Python and Bash script

Personal Projects

Portfolio Website
jakubzolkos.netlify.app

The first iteration of a personal portfolio website. Written in React and TailwindCSS.

E-Commerce Product API

A product API with a custom database for an e-commerce business. Created with Django REST Framework, Elasticsearch and Docker.

Sobriety Detection via Voice Analysis

Machine learning model for determining user sobriety based on spectral analysis of uploaded voice samples. Presented at Machine Learning in Poland Conference 2021; https://conference2021.mlinpl.org/accepted-talks-and-posters/

Recog

An Android application leveraging Google Vision API and a mobile phone camera to recognize objects and utter their name and position on the screen using text-to-speech.

Education

Boston University
Boston, MA

Computer Engineering | GPA: **3.72** / 4.00
09/2020 - Present

- Machine Learning Concentration
- Dean's List (2020, 2021)
- Member of BU High Performance Computing Club and Data Science Club
- Software Engineering · Algorithms & Data Structures · Machine Learning · Operating Systems · Computer Networking · Statistics & Probability