

JAKUB ZOLKOS

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Skills

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

Web Development: Django • Flask • React • PostgreSQL • MongoDB • TailwindCSS • Docker • Elasticsearch

AI & Data Analysis: TensorFlow • Scikit-Learn • Pandas • NumPy • Matplotlib

Paradigms: Test Driven Development • Agile • REST

Professional Experience

Engineering Product Innovation Center

Boston, MA

Software Engineer

01/2021 - Present

- Upgraded entry authorization system in the facility with a web application used by 100+ people daily, enabling migration from a file-based data storage system and saving 3 hours per week on setup and debugging.
- Integrated the website with the employee clock-in system leveraging personal access cards, automating 30 minutes per employee weekly.
- Implemented a survey collection functionality for facility users, allowing management to view visualized statistics of 3000+ past visitors.
- Slashed operating costs by 10% through improving facility services based on obtained survey information.

BU VIP Laboratory

Boston, MA

Data Analyst

02/2022 - 01/2023

- Collaborated with 5+ people in creating a state-of-the-art convolutional neural network estimating room occupancy with a system of overhead fish-eye cameras, achieving mean accuracy of 95%.
- Optimized a script for producing smooth occupancy heatmaps, decreasing program runtime from 15 minutes to 10 seconds.
- Invented an algorithm for aiding ground truth labeling and produced people count plots from bounding box JSON data, saving 10 hours of manual work per recording.
- Automated 3+ hours of weekly work for team members by simplifying data transfer between local and remote machines with an ensemble of Python and Bash scripts.

Personal Projects

Portfolio Website

<http://jakubzolkos.netlify.app>

The first iteration of a personal portfolio website, written with React and Tailwind CSS.

E-Commerce Product API

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

Sobriety Detection API

A simple API that returns sobriety prediction based on a machine learning model performing 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, written with Kotlin, Flask and Google Vision API.

Education

Boston University

Boston, MA

Computer Engineering | GPA: **3.72** / 4.00

09/2020 - Present

- Machine Learning Concentration
- Dean's List (2020, 2021)
- Software Engineering • Algorithms & Data Structures • Operating Systems • Computer Networking • Machine Learning • Statistics & Probability