Samuel Aggeler

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EDUCATION

ETH Zürich   Zürich, Switzerland
Bsc. in Computer Science   2020-2024
ETH Zürich   Zürich, Switzerland
Msc. in Computer Science   2024-current

EXPERIENCE

Intern, Client and Support (CAS)   November 2019 – September 2020
Ospelt Group   Bendern, Lichtenstein
- Provided first and second-level technical support to end-users via telephone, resolving hardware and software issues.
- Performed client-side software installations, updates, and configurations.
- Assisted in monitoring server infrastructure health and performing routine checks.
- Managed user accounts, groups, and permissions within Active Directory.
- Implemented flows with PowerBi for automatic approval of internal processes.

Software Engineer (Full Stack)   February 2024 – Present
Universität Zürich (UZH)   Zürich, Switzerland
- Lead full-stack development and management of the Swiss HIV Cohort Study (SHCS) Django application, used by physicians nationwide for validated HIV research data entry.
- Oversee DevOps processes, including CI/CD pipeline management, automated deployments, and infrastructure monitoring.
- Responsible for the maintenance, feature enhancement, and operational stability of additional Java applications.
- Design, implement, and test new features across both Python/Django and Java application stacks.
- Manage application lifecycles, including updates, bug fixes, and performance optimization.
- Conduct technical interviews and participate in the selection process for civilian service (Zivildienst) personnel in IT roles.

PROJECTS

EntAnotate: Active Learning Polyp Annotation Tool   September 2024 – Present
- Developed a full-stack application (EntAnotate) implementing an active learning pipeline to assist medical professionals in efficiently annotating polyps in endoscopic images.
- Engineered the backend using FastAPI to manage image data, store annotations, and orchestrate the machine learning model feedback loop.
- Built the interactive frontend using React, providing tools for annotation and visualizing model predictions to guide users.
- Utilized Docker Compose to containerize the application components for reproducible deployment.
- Focused on creating an active learning workflow where user input iteratively trains an underlying model, which in turn suggests areas of interest to improve annotation speed and consistency.

Phisray: Gamified Phishing Awareness Platform   February 2025 – Present
- Developed "Phisray," an interactive web platform to train users in phishing detection using realistic examples and gamification techniques.
- Designed a backend architecture featuring an Express.js application integrated with a FastAPI microservice for ML related functionalities and postgres as a backend database.
- Created a dynamic and engaging user interface with React, incorporating different training modules and an achievement system inspired by Duolingo.
- Leveraged datasets containing real-world examples to generate authentic phishing simulation content.
- Implemented containerization using Docker Compose and managed deployment orchestration via Kubernetes.

SKILLS & INTERESTS

Programming Languages: Python, Java, JavaScript (Node.js), PowerShell, SQL, HTML, CSS
Frameworks & Libraries: Django, DRF, FastAPI, Express.js, React
Databases: PostgreSQL
DevOps & Deployment: Docker, Docker Compose, Kubernetes, CI/CD Principles, Git, Linux Environment
Platforms & Tools: Active Directory, Microsoft Power Platform (Power BI)
Concepts & Methodologies: Full Stack Development, RESTful API Design, Microservice Architecture, Active Learning Pipelines, Machine Learning Concepts, DevOps Practices, Agile Development, Application Lifecycle Management,