Mazen Elabd

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Experience

Full Stack Engineer

mindtrace.ai (10/2023 – Present)

- Built full-stack solutions integrating 2D and 3D classification models for clients such as Adient and musicMagpie.
- Developed software solutions for multicam streaming and capturing from USB2, USB3, GigE, and other camera types within websites, with user controls for adjusting image parameters.
- Utilised a diverse tech stack, including TypeScript, Node.js, React, Next.js, Python, Flask, PostgreSQL, MongoDB, Three.js, tRPC, Prisma, Firebase, GCP, AWS, Docker, Tailwind, T3 Stack, Zod, Mantine, and more to build full-stack solutions.

Master of Science Thesis Project

Multimodal Sentiment and Emotion Classification

University of Sunderland (03/2023 – 09/2023)

- Developed models for sentiment and emotion classification using audio, vision, and text modalities.
- Utilised Python, PyTorch, PyTorch Lightning, HuggingFace Transformers, scikit-learn, and GCP.
- Fine-tuned and evaluated multiple unimodal classification models for each modality.
- Introduced five novel multimodal models, achieving new state-of-the-art results on two benchmarks.

Full Stack Engineer

Beyond Apps Group (12/2021 – 03/2023)

- Developed features for myzesty and beyond-apps-group using React, Node.js, Next.js, Express.js, MongoDB, Redis, Socket.IO, Nginx, React Testing Library, Jest, Cypress.io, Bootstrap, and Docker.
- Utilised a diverse range of AWS services, including Lambda, S3, EC2, VPC, ELB, CloudFront, IAM, CloudWatch, Elastic Beanstalk, and SNS.
- Created a subscription service with in-app purchases for iOS and Android.
- Integrated FFmpeg with AWS Lambda for efficient serverless image and video processing.
- Improved the database query performance.
- Implemented EC2 auto-scaling for improved stability.
- Integrated Google Analytics and Hotjar for data-driven decisions for website optimization.
- Enhanced SEO increasing traffic by more than 300%.

Publications

- Elabd, M. and Jaf, S. (2024). Simple Attention-Based Mechanism for Multimodal Emotion Classification. Presented at ICAC 2024. (In Press). Link.

Education

MSc in Data Science (with Distinction)
Faculty of Technology, School of Computing
University of Sunderland, United Kingdom
09/2022 – 10/2023

BSc in Computer and Systems Engineering
Faculty of Engineering, Kafr El-Sheikh University
09/2016 – 06/2021

Projects

- HateGuard [Source code]**:** Advanced hate speech detection model utilising PyTorch and transformers. Implemented with a Flask back-end and seamlessly integrated with a Next.js front-end.

- My Portfolio Website [Source code] [Website]**:** Built with Next.js, React, and Three.js.

- Taylor Fans eCommerce Platform [Source code]**:** Full stack eCommerce website with admin panel, full-featured shopping cart, and PayPal payment system. Built with the MERN stack, redux, MUI, Cypress, and JWT Authentication.

- Real Estate Firm Website [Source code] [Website]**:** Real Estate website built with Next.js, React, Strapi, PostgreSQL, Cypress, and Framer Motion.

- Photographer and blog Frontend Template [Source code] [Website]**:** Photographer and Blog template built with JavaScript, jQuery, and Bootstrap. It contains a total of 11 pages.

Please visit mazenelabd.com and explore my GitHub repositories for additional projects.

Skills

Frontend: React, React Native, Next.js, JavaScript, TypeScript, jQuery, Three.js, Redux, and Webpack.

Backend: Node.js, Express.js, MongoDB, Redis, GraphQL, NestJS, Serverless, Socket.IO, Flask, MySQL, and PostgreSQL.

Machine Learning and Data Science: Python, R, PyTorch, PyTorch Lightning, and scikit-learn.

Testing: React Testing Library, Jest, and Cypress.io.

Other: AWS, GCP, Docker, Git, Linux, and Nginx.