Jan Szczekulski

email website linkedin github

Education

UC San Diego **Sept. 2023 – Present**
Master of Science in Computer Science *San Diego, USA*

University of Liverpool **Sept. 2017 – May 2020**
BSc (honours) in Computer Science and Mathematics *Liverpool, UK*

Experience

The Hut Group **Dec. 2021 – Aug. 2023**
Software Engineer *Manchester, UK*

- I led the experiment-able widgets project, which enabled the company to quickly and dynamically test changes to website's UI via A/B testing, leading to 60 new effortless experiments and estimated 5% increase in YoY revenue
- As a part of this project, I integrated an internal widget-serving backend together with a/b testing backend, as well as page-serving service
- Brought up to speed and re-factored outdated internal experiment backend, together with database schema
- Altered multiple internal frontends (written in AngularJS and React) to support new experiment features
- Dockerized and Kubernetized internal backends, frontends and data processing pipelines
- Set up virtual machines, load balancers, grafana logging, database and networking for internal tools
- Mentored and led development of multiple juniors - setting the learning paths, materials and presentation that explained team's software infrastructure

The Hut Group **Sept. 2020 – Dec. 2021**
Graduate Data Scientist *Manchester, UK*

- Helped develop a periodic company-wide ML algorithm and accuracy metrics for short-term demand forecasting
- I conducted 7 A/B/n tests, and performed thorough data analyses which resulted in £1million rise in sales year-on-year. Two of the A/B tests included forecasting time-series data utilising ML
- Improved and automated manual tools surrounding internal A/B testing platform such as duration estimation, results generation or metrics addition. Improved and set up acceptance and integration testing for multiple components, and improved robustness of CI/CD pipelines.
- Built data pipelines from scratch, including setting up virtual machines, Jenkins, and periodic scripts.
- Set up various CI/CD pipelines utilising shell, github actions and Jenkins
- Took responsibility for the timely update and patch management of virtual machines to mitigate critical bugs and maintain system integrity

Lazarski University **June 2021 – Present**
Research Collaboration *Warsaw, Poland*

- Provided data analysis of the past treatments to determine the best treatment approach for birthmarks treatment
- Utilized CNN in combination with transfer learning to predict the patient's treatment's results based on patient's photo pre-operation.
- Applied cycleGAN together with Differential Augmntation to create a model that can translate between images of healthy faces and patient' faces - to make patient's aware

University of Liverpool **June 2020 – Aug 2020; Aug 2022 - Aug 2023**
Research Assistant *Liverpool, UK*

- Worked on finding ways to increase the efficiency of geometric reconstruction of nanowires through the application of Convolutional Neural Networks (CNNs) for reconstruction angles prediction

UCSD - Cognitive Robotics Laboratory **September 2023 – Present**
Research Assistant *San Diego, USA*

- I'm currently working on developing a new algorithm for a tabletop rearrangement task as a part of a bigger "home robot" project

Projects

Monet-me-this web app | *React, SpringBoot, Python, PyTorch, Linux* **November 2022**

- Implemented a cycleGAN AI model that turns a simple image into a painting that closely resembles the style of the master painters such as Monet or Van Gogh.
- I developed and deployed a full-stack web application game where players must determine which images were generated by a famous painters and which by the AI.

Technical Skills

Languages: Python, SQL, Java, Shell, JavaScript, HTML/CSS, C++,
Frameworks: PyTorch, Tensorflow, Pandas, Numpy, Matplotlib, React, Angular, SpringBoot
Technologies/Tools: Git, GH actions, Docker, Jenkins, Kubernetes, Latex

Publications

Journal Articles & Conference Proceedings

- Anna Mataczynska, Michal Paprocki, **Jan Szczekulski** and Bartlomiej Kwiek. *Laser Therapy of Cutis Marmorata Telangiectatica Congenita Vascular Malformation.* **Dermato**, volume 29 2023
- **Jan Szczekulski**, Michal Paprocki, Ryan Butler, Anna Mataczynska and Bartlomiej Kwiek. *Investigating the effectiveness of convolutional neural networks in predicting the efficacy rate of treating port-wine stain birthmark.* **Journal of Investigative Dermatology**, volume 143 2023
- Michal Paprocki, Anna Mataczynska, **Jan Szczekulski** and Bartlomiej Kwiek. *The effectiveness of cutis marmorata telangiectatica congenita laser therapy.* **Journal of Investigative Dermatology**, volume 143 2023
- Michal Paprocki, Anna Mataczynska, **Jan Szczekulski**, and Bartlomiej Kwiek. *Long term treatment of pws might require a new dual therapy consisting of induction and maintenance.* In 41st ASLMS Annual Conference on Energy Based Medicine& Science, in San Diego California, USA.

Relevant Coursework

- Robotics and Autonomous Systems
- Object Oriented Programming
- Intro to Programming
- Introduction to AI
- Advanced AI
- Probabilistic Reasoning&Learning
- Computer Vision I
- Reccommendation Systems
- Data Mining and Visualisation
- Statistics, Linear Algebra & Calculus courses
- Unsupervised Learning
- Search & Optimization