

# Peter Kautwima

Software Engineer — Frontend & Machine Learning / AI

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## PROFILE

Software Engineer with over six years of professional experience — including three years delivering production frontend systems across 11 brands at a FTSE40 company — and a BSc (Hons) in Machine Learning & AI graduating 2026. The combination of deep frontend expertise and hands-on ML/AI knowledge positions me for roles building intelligent, AI-powered products where both skill sets are used together. Early adopter of AI-assisted development (GitHub Copilot in production since 2024; working with AI models since 2022). Based in Cape Town, UTC+2 — fully aligned with UK and EU working hours. Open to remote Senior or Intermediate Software Engineering roles, and ML/AI engineering roles at companies building intelligent products.

## FEATURED PROJECT

### Deep Learning Breast Cancer Classification — CM3070 Final Project, University of London (2026)

[github.com/peter-kautwima/DeepLearning-BreastCancer-Classification](https://github.com/peter-kautwima/DeepLearning-BreastCancer-Classification)

- Built an end-to-end deep learning pipeline for malignant/benign mammogram classification on the CBIS-DDSM clinical dataset (~3,500 biopsy-verified ROI patches).
- Four-stage iterative pipeline: Baseline CNN → Frozen VGG16 → Regularisation (Dropout + L2) → Fine-tuning. Best model: **AUC 0.7678, sensitivity 0.7055** on 714 held-out images — 64% relative sensitivity gain over baseline, exceeding mean individual radiologist AUC (McKinney et al. 2020).
- Implemented Grad-CAM explainability via a custom GradientTape workaround for a Keras 3 graph disconnection issue — heatmaps for all four prediction categories (TP, TN, FP, FN).
- Fully reproducible on a public dataset with stratified splits, class-imbalance weighting, and training-only augmentation.

Python · TensorFlow/Keras · Jupyter Notebooks · NumPy · Pandas · Scikit-learn · Matplotlib · pydicom · Google Colab (T4 / A100 GPU)

## EXPERIENCE

### Intermediate Software Engineer — The Rank Group (ShiftTech)

Dec 2022 – Feb 2026

FTSE40 international gaming & entertainment · ~7,700 employees globally · Cape Town subsidiary: ShiftTech · Office scaled from ~50 to ~150 — enterprise backing with a startup-scale team

- Delivered frontend across a multi-brand unification initiative consolidating ~11 brands — including Mecca Bingo and Grosvenor Casino — onto a single Umbraco CMS, reducing per-brand maintenance overhead and enabling consistent feature rollout. Core engineering team of ~10.
- Jackpot Carousel:** Built a real-time jackpot carousel aggregating live data from multiple providers. Designed a Cloudflare Worker to poll and cache jackpot values at near-real-time frequency; built a Remix service layer to push live updates to the UI with smooth animations. Solved multi-provider data normalisation, polling architecture, and cache invalidation under production traffic. Live on Mecca Bingo and Grosvenor Casino.
- Delivered a redesigned registration flow across multiple brands, improving conversion and onboarding UX.
- Built and maintained a shared Storybook component library ensuring design consistency across the full brand estate.
- Mentored junior developers within the team on frontend development best practices.

TypeScript · React · Remix · GraphQL · Tailwind CSS · Storybook · Umbraco CMS · Cloudflare Workers · Git

### Frontend Developer — Bertha Centre, UCT Graduate School of Business

Jul 2022 – Mar 2023

Part-time retainer · Leading social innovation research hub

- Maintained and extended the public-facing web presence for the Bertha Centre.

JavaScript · GatsbyJS · Tailwind CSS · Netlify CMS · Netlify

### Frontend Developer — reOS

Jul 2021 – Oct 2022

PropTech startup · Property management platform · Joined as intern, promoted to full-time Junior after 4 months

- Built production features across the rental management platform: payment reconciliation tool, user invitation & role permission workflows, file management, and dashboard statistics.
- Bridged development and customer-facing operations teams; took on sprint PM functions and led QA follow-up on critical issues.

TypeScript · React · Redux · RxJS · JavaScript · HTML · CSS/Sass · RESTful API

## Freelance Frontend Developer — LaTierra

2022

Freelance · Professional website

- Built the frontend for a professional website using a modern full-stack TypeScript setup.

Next.js · Prisma · Tailwind CSS · tRPC

## Freelance WordPress Developer

2019

- Built tailored websites for small businesses across branding, UX, and functionality. Managed full project lifecycle independently from client brief through to delivery.

## Content Creator — Pocket Jam

2019

EdTech mobile learning application

- Created educational learning content for the Pocket Jam mobile app.

## Founder — Supa Tutor & Mathamagicians (PTY)

May 2011 – Jun 2021

EdTech startup · Maths, English & Coding · 10 years

- Founded and ran an EdTech tutoring platform for 10 years. Began building the interactive online learning platform in 2017 and successfully piloted it at Summit House College in 2018. Developed and delivered a coding curriculum to students. Received an acquisition offer in 2015; chose to continue building.

## Substitute Teacher — Summit House School

Mar 2018 – Dec 2018

Private school · Hout Bay, Cape Town

- Substitute teacher for Grade 8–12 in English, Mathematics and Science. Concurrently trialled the SupaTutor online Maths course with Matric students at the school.

## Financial Director & Head Booker — The Fantastic Agency

Nov 2019 – Feb 2021

- Managed a portfolio of 250 models; oversaw financials, bank reconciliation, and booking operations. Revenue increased twofold over two years.

## TECHNICAL SKILLS

### FRONTEND (PROFICIENT)

TypeScript · JavaScript · React · Redux · GraphQL · HTML · CSS/Sass · Tailwind CSS · Storybook · CSS Modules · Remix · GatsbyJS · RxJS

### INFRASTRUCTURE & TOOLING

Cloudflare Workers · Netlify · Umbraco CMS · Git / GitHub · RESTful APIs

### AI TOOLING

GitHub Copilot (production, ~2 yrs) · Claude Code · LLMs & AI models since 2022 · Prompt engineering

### MACHINE LEARNING / AI

Python · TensorFlow/Keras · Deep Learning · Data Science · Transfer Learning · CNNs · Neural Networks · Computer Vision · Grad-CAM · Genetic Algorithms · Evolutionary Algorithms · NumPy · Pandas · Scikit-learn · Matplotlib · pydicom · Jupyter Notebooks · Google Colab

### ALSO USED

Node.js · SQL · Express.js · Next.js · Prisma · tRPC · Bootstrap · Jest · Cypress · C++ · Docker

## EDUCATION

### BSc (Honours) Computer Science — Machine Learning & Artificial Intelligence

2021–2026

University of London (Goldsmiths) · Graduating 2026

### Shaw Academy — Web Development, Web Design, Financial Trading & Investment

2019

Google IT Support Professional Certificate

2022

University of Cape Town — 2nd year, Chartered Accounting & Information Systems

2009–2010

Camps Bay High School — Matriculated, 7th in grade

2008

Deputy Head Prefect · Head of Debating · 1st Team Tennis · 1st Team Squash · 2nd Team Rugby



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To Whom It May Concern,

I am pleased to write this reference letter for Peter Kautwima-Peetz, who worked at The Rank Group as a Software Engineer from December 2022 to February 2026.

He contributed meaningfully to various projects, most notably the full platform re-build during his tenure at ShiftTech. Peter demonstrated a strong ability to solve complex problems and collaborate effectively with colleagues.

Peter's work ethic and attention to detail made him a strong member of our team. He was always eager to learn new technologies and took initiative in improving our software solutions. His positive attitude and reliability ensured that tasks were completed on time.

I am confident that Peter will be a great asset wherever he chooses to apply his talents. Please feel free to contact me if you require further information.

A handwritten signature in black ink, appearing to read "Chris Marais", with a long horizontal flourish extending to the right.

Sincerely,  
Christopher Marais  
Chief Engineer  
The Rank Group



# Reference Letter

PETER KAUTWIMA

26 November 2022

To whom it may concern,

I can confirm that Peter Kautwima completed a four month internship with reOS from 11 July 2021 to 10 November 2021. Upon the successful completion of his internship he was appointed as a full time Junior Front-End Software Developer. Peter was a full time reOS employee, in the mentioned designation, from 11 November 2021 to 3 October 2022.

During his time with reOS, Peter worked on the following noteworthy projects, amongst other small enhancements and bug fixes:

1. An internal admin tool for assisting the support team in reconciling and allocating payments with incorrect references. The wallet service auto-allocates payments with correct references, but there are occurrences where payments are made with an incorrect reference and these need to be manually allocated accurately and efficiently. This tool enabled the support team to view and search for payments with incorrect references easily, and provide supporting information to assist the decision making process. Once a payment was allocated, the tool would execute the payment instruction.
2. File management and dashboard stats.
3. Optimising our sorting and filtering throughout the UI of the web app.
4. The UI implementation for an integration with a business partner of reOS, that provides adjacent services relating to property maintenance services.
5. The extension of our user invitation management workflows and user role permission settings, while improving the overall UX.

Over and above his technical function, Peter was a great bridge between the development team and the customer facing operations team. He also fulfilled some small project management functions within our sprints and played a very active role in following up on critical systems issues and QA tasks.

Unfortunately, due to a restructure in October 2022, Peter's role was made redundant and he was retrenched on 3 October 2022.

Yours sincerely

A handwritten signature in black ink, appearing to read "Craig Buckley".

Craig Buckley  
MANAGING DIRECTOR