

# Thomas Pain

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I am a back-end Software Engineer at Midnite, a sport and esports gambling scale-up. Prior to Midnite, I spent five years building a travel start-up where I was responsible for technology and product. I am also finishing the research project for my MSc in Computer Science with AI, where I am building a hybrid CNN-LSTM deep learning model for programmatic high-frequency currency trading.

## Skills

### Core skills

Python, AWS, Docker, PostgreSQL, SQLAlchemy

### Other skills (production)

Cloudflare, Redis, Datadog, GraphQL, TypeScript, JavaScript, Vue.js

### Other skills

#### (non-production)

Java, Golang, React, Azure, MongoDB

## Relevant qualifications

### Education

MSc Computer Science with Artificial Intelligence

### Certifications

AWS - Cloud Essentials

Udacity - Python Nanodegree

Microsoft - Azure AI Fundamentals

## Preferences

### Work type

Remote

### Positions

Back End, Full Stack

### Experience level

Senior

## Relevant Experience

### Midnite - Software Engineer (back-end)

05/22 - Present

Midnite is post-series A (\$32m raised) betting platform with a focus on user experience. Technical challenges arise from the large volume of live, risk-adjusted data; operations in 11 highly regulated countries with two distinct brands; and support for multiple languages, currencies, and rapidly growing scale. Since joining, wagering has grown from \$1.3M in my first month to over \$60M per month and up to \$3.5M per day on peak days.

- I currently mentor two junior engineers while leading our first AI personalisation and recommendations product. This has now been rolled out on casino with an almost instant c. 20% increase in 7 and 30 day retention. I am now working on sportsbook personalisation. As part of the work, I refactored our content apis reducing home page latency from over a second to around 300ms while allowing clients to lazy load content.
- Designed and implemented a decoupled, event-driven data pipeline leveraging PostgreSQL's Listen/Notify feature to stream events to Kafka.
- Worked in a small team to design and build a casino and a virtuals product from scratch. Within two weeks of launch, casino more than doubled company revenue and virtuals added another 5%. Casino achieved \$140M in wagering in its first 12 months and now has a run rate of over \$1M per day.
- Built the back-end split testing framework.
- Full stack development for new welcome and sign-up bonus products to improve customer acquisition.
- Engineered an algorithm for dynamic pricing adjustments based on risk assessment and bet volumes.
- Built a prize allocation service for a free-to-play game, factoring in users' predicted LTV, recent betting history, and reward accumulation to boost engagement via statistically driven prize selection.

### Packed - Co-Founder and Software Engineer (full stack) 03/17 - 03/22

Packed provided a marketplace of trusted and reliable holidays for groups.

- Featured in The Times, the Evening Standard, the Metro and Condé Nast
- Built the MVP product using Python / Django, GraphQL, Vue, and AWS integrating Twilio, Google Dialogflow, and WorldPay for payments
- Managed three overseas contract developers, a contract designer, and a mobile app development agency
- Designed and launched a React Native app with 10,000+ users across iOS and Android
- Responsible for the analytics stack and technical SEO, growing organic traffic to >10k users per month
- Achieved sales of up to £230k per month, amassed 2,600 customers, and generated £2.3m in sales before closure due to COVID-19

## Historic experience

### **True - Senior Associate**

12/16 - 08/17

I worked closely with US and European tier-1 venture capital funds to help them strengthen the boards of their portfolio investments, regularly helping US technology companies scale into EMEA.

### **Oliver James - Head of Digital, Marketing and Design & Development Practices**

01/15 - 12/16

I built the teams from scratch, was promoted three times in two years and managed 14 people.

### **Outgoing - Product Manager**

05/11 - 09/13

I was responsible for the department's financial performance, delivering all aspects of the passenger experience, and managing six full-time staff and up to 110 seasonal staff. Increased passenger numbers from 1,600 in 2010/11 to almost 15,000 passengers in 2012/13.

### **Sisu Capital Ltd - Intern, Distressed Debt and Operations**

12/07 - 02/08

Internship at a distressed debt hedge fund

### **3D Currency Management - Intern**

09/07 - 10/07

Internship at a hedge fund trading securitised debt in the FX market

### **Sigma Wealth Management - Intern and continued part-time work**

07/07 - 08/09

Developed a model to track fund-based renewal, researched investment opportunities and assisted with report writing and due diligence

## Education

### **University of York - MSc Computer Science with Artificial Intelligence, Distinction**

2020 - 2024

- Current grade average: 75.5% (distinction) with only the research project remaining
- Modules: AI and Machine Learning, Applied AI, Algorithms and Data Structures, Advanced Programming, Big Data Analytics, Computer Architecture and Operating Systems, Computer and Mobile Networks, Software Engineering, and an AI-based research project. All modules are Java or Python based.
- Building a deep learning model for programmatic high-frequency Forex trading for my research project

### **Harvard University - HarvardX CS50 & CS50W Computer Science**

2020 - 2021

- A 6-month course covering Python, JavaScript, SQL, Django, and React

### **University of Pennsylvania, The Wharton Business School - Business Strategy & Entrepreneurship**

2016

- Part of the Wharton MBA, this was a six-month assessed remote learning course

### **Durham University - MSc Finance and Investment, Merit**

2008 - 2009

### **Durham University - BA (Hons) Accounting and Finance, 2:1**

2005 - 2008