Max Whittaker

Manchester, UK (Remote) | +447427623920 | max.p.whittaker@gmail.com
maxwhittaker.dev | linkedin.com/in/max-whittaker-353212374 | github.com/jungian6

Profile

Python backend engineer building production AI products on async FastAPI: LLM pipelines, real-time speech-to-text and WebSockets. Rebuilt Casenote, Citizens Advice's AI casenote tool, now live in more than 20 local offices and generating around 7,000 casenotes a month. First Class Computer Science graduate with published research on AI in maths education.

Experience

Citizens Advice Stockport, Oldham, Rochdale and Trafford — Manchester, UK (Remote)

Senior Developer — *June 2026 – Present*
Software Developer — *January 2026 – June 2026*
Junior Software Developer — *August 2025 – January 2026*

Casenote*: AI tool that records adviser–client calls, transcribes them and drafts the casenote*

- Own the backend and AI pipeline; rebuilt Casenote from an early prototype into a product live in more than 20 Citizens Advice offices, generating around 7,000 casenotes a month, with more being onboarded and every office due to get it by March 2027.
- Rewrote the async FastAPI backend (Pydantic, SQLModel) as a LangChain pipeline in which separate models draft the casenote, score it against quality rubrics and refine any draft below the pass mark, before a final quality assurance assessment.
- Streamed custom progress events from each step to the adviser's browser over WebSockets, replacing polling.
- Fixed WebSocket connections dropping on advisers' Chromebooks, caused by Chrome throttling JavaScript timers, by moving the timers into a Web Worker.
- Fixed unreliable speaker attribution by capturing the adviser's microphone and the client's call audio as separate channels instead of one mono mix, making speaker labels deterministic.
- Migrated speech-to-text from Google Chirp to ElevenLabs; transcript complaints have since all but stopped.

PII redaction service

- Extracted personal data redaction into a GLiNER service used across the Citizens Advice AWS VPC.
- Used Presidio to resolve overlapping entity spans, and moved blocking model inference onto a thread pool to keep the async API responsive.

Platform and other products

- Split the quality assurance assessment into a standalone service in its own AWS VPC, reached over AWS PrivateLink, so other Citizens Advice systems can use it with a single POST request.
- Contributed to the platform's migration from GCP to AWS; Casenote has since passed a full penetration test commissioned by national Citizens Advice.
- Started ConvoCoach, a training tool for advisers now being rolled out, and built its first version on FastAPI.

Boohoo PLC — Manchester, UK

Android Developer (Placement Student) — *August 2022 – April 2024*

- Placement year, then part-time through final year, working on features for the Boohoo group Android apps in Kotlin and Jetpack Compose.

Education

University of Derby — Derby, UK

BSc Computer Science, First Class Honours (85%) — *September 2020 – May 2024*

- Dean's Award for outstanding academic achievement.
- Dissertation on multi-agent AI generation of GCSE Maths resources presented at P.PIC, Porto (July 2024) and published as "Supporting Bloom's Two Sigma Problem in UK GCSE Maths" in Open Education Studies (December 2024) [paper].

Technical Skills

Languages: Python, SQL (PostgreSQL), TypeScript

Backend: FastAPI, Pydantic, SQLModel, async Python, WebSockets, pytest, Locust

AI: LangChain, GLiNER, Presidio, ElevenLabs speech-to-text

Deployment & Tools: AWS (ECS Fargate, VPC), Docker, Fly.io, Railway, GitHub Actions, Git, Cursor