

FRANKIE PANG

Design Engineer · Attractions & Themed Entertainment

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PROFILE

Third-year MEng Global Design Engineering student at ASU London and TEA Student Member, building at the meeting point of show technology, ride design and fabrication: a projection-mapped animatronic head, a NoLimits 2 to SolidWorks ride-modelling tool, and production-waste lighting made with Linney for McDonald's. Five years in guest-facing roles, latest as an Apple Specialist, mean I design from the guest backwards. Seeking a 20-week industry project, January to June 2027.

SELECTED PROJECTS

Projected Head | Projection-mapped animatronic, proof of concept 2026

- 3D-printed scanned head on a three-axis servo neck (ESP32, PCA9685, MG996R, animated in Bottango); its Blender digital twin renders the face in real time and a projector maps it back onto the print, so it blinks, talks and changes expression with no moving facial parts.
- Wrote three Blender add-ons in Python (eye rig, expressions, timed face overlays, plus a NumPy PSD reader verified pixel-identical against psd-tools) and synced the twin to Bottango playback with matched latency.
- Traced projected-face slip to neck backlash, iterated two mount revisions and specified closed-loop steppers for revision 2.

SENKI | Repairable vertical pen plotter, team project lead 2025

- Led the team and designed the frame, polargraph motion system and carriage: two NEMA 17 steppers on GT2 belts over a 75° board, on aluminium extrusion reused from a display cabinet. **Judged best prototype in the cohort.**
- Wrote the Arduino C++ firmware (kinematics, stepper control, IR paper check, servo pen lift) and designed for repair: no adhesives, three screw sizes, QR-coded parts and an IKEA-style open-source repair guide.

NoLimits 2 to CAD | Ride-design tooling 2026

- Built a JavaScript browser exporter that decodes the simulator's binary track geometry, and a MATLAB editor that rebuilds an orthonormal frame per node to stop rail twist, outputting rail and spine curves in millimetres for SolidWorks scale models.

AuraBloom | User-centred product design 2025

- Calming lamp with a blooming PETG shade and phone dock; ran observations and interviews, then took it from cardboard models through SolidWorks and material tests to a hand-finished prototype for the course showcase.

EXPERIENCE

Frankie Pang Studios | Founder & Design Engineer, London 2022 – Present

- Independent practice spanning branding, product visualisation and experimental fabrication, including ExtruDough, a themed (pizza-parlour) brand, typeface and 3D-printed packaging system for a miniatures maker.

Linney | Assistant Product Designer, Mansfield Jul 2023

- Designed products from the production line's own cardboard waste: Lamina, a helical laminated lamp developed for McDonald's; ReLight flat-pack lampshades cut on a CNC oscillating knife; and Strata, a layered statement piece for the company's annual presentation.

Apple | Specialist, Regent Street, London Aug 2025 – Jan 2026

- Delivered a Vision Pro demo to a dental practice exploring immersive environments to reduce patient anxiety during treatment; recognised as **Intro of the Week**.
- Made the experience work for every guest: AirPods Pro hearing-aid setup, Live Translation, SignTime for BSL users, motion and text-size settings. Saw guests repurpose features designers never planned for, which shapes how I test my own work.

Earlier guest-facing roles 2021 – 2025

- **Student Ambassador, ASU London** (2024–25): campus tours for the public and government officials. **Emergency Department Porter, NHS** (2024): urgent patient logistics across a large hospital site. **Front of House Supervisor, Jade Cottage** (2021–24): operations, staff training and service quality.

EDUCATION

ASU London (formerly TEDI-London) | MEng Global Design Engineering Sep 2024 – Jun 2028 (expected)

The Brunts Academy | A Levels 2022 – 2024

SKILLS & INDUSTRY

Design & CAD SolidWorks, SolidWorks Visualize, Blender (Eevee, rigging, add-on development), design for manufacture

Show tech & making Projection mapping, servo animation (Bottango), ESP32 and Arduino embedded systems, stepper motion, FDM and resin 3D printing, CNC knife cutting, prototyping and paint finishing

Code & methods Python (NumPy), C++ (Arduino), MATLAB, JavaScript; user research, inclusive design, circular design

Industry TEA Student Member; attended IAAPA Expo Europe 2026, London; MCParks volunteer since 2020 (non-profit online theme park: inclusive guest experiences, charity fundraising)

Other VEX Robotics Competition Judge; The Scholars Programme; Duke of Edinburgh Bronze. Languages: English (native), Mandarin and Cantonese (conversational)