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Interim Report N° 01

First Passage, so far – as at 28 Sep 2026

Zhouyi Xiaoxiao 周易潇潇

PHD RESEARCHER · FIRST-PASSAGE TIMES & AI AGENTS · AI LEAD

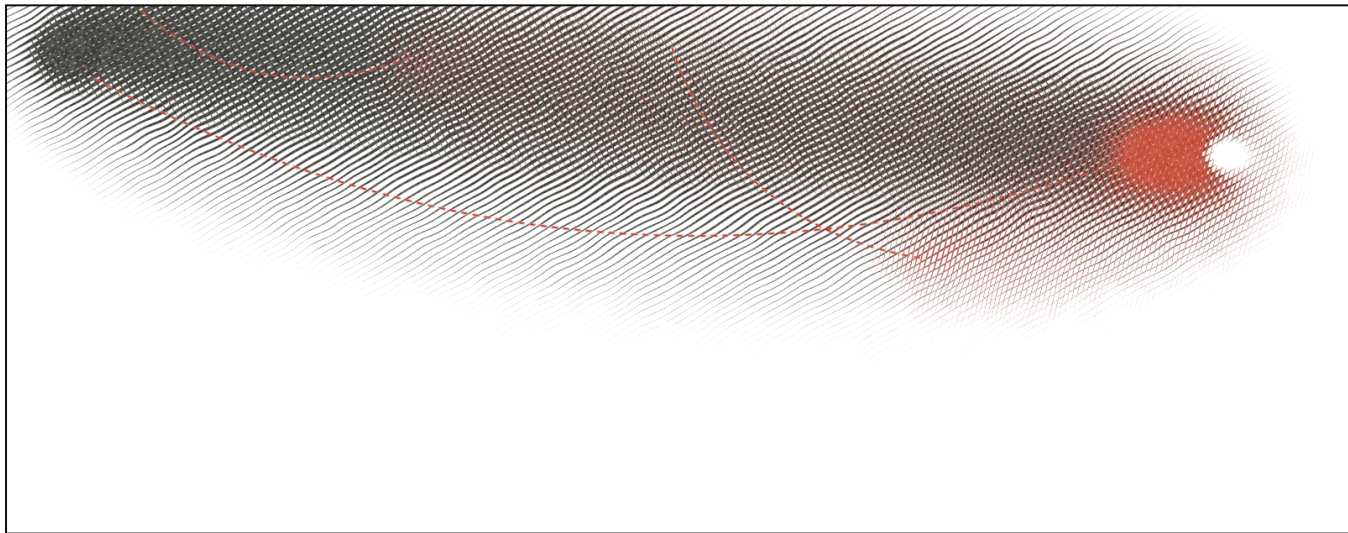


FIG. 0 *The Plate – 2021 to now, as a long exposure. Toy model: walkers drift toward the event you choose; shortcuts jump. Red = took a shortcut (fast). Silver = wandered the long way. The paper's exact ring model is in chapter 01.*

WHO	PhD researcher, University of Bristol – first-passage times of random walks and the evaluation of AI agents · AI lead (R&D), Yuexin International	
OUT	01 First-author paper accepted at UKAIRS 2026 – poster #181, Edinburgh, 25 Nov 02 Single-author paper submitted to Physical Review E, Jul 2026 03 Public reproduction archive v1.3.0 · 46 Lean-checked theorems	
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索

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RESEARCH OUTPUTS

🌟 Skipping the IME? Keyboard-Friendly Multilingual Prompting for LLM Agents

Xiaoxiao Zhouyi, Yanzhen Li

UKAIRS 2026 · EMERGING RESEARCH (POSTER), EDINBURGH
· 11 AUG 2026

- ACCEPTED · POSTER #181, EDINBURGH, 25 NOV 2026

POSTER LIST

—[HTTPS://UKAIRS2026.EVENTSADMIN.COM/I/POSTERSESSIONS](https://ukairs2026.eventsadmin.com/i/postersessions)

Geometry-controlled folds of first-passage-time bimodality under localized absorption

Xiaoxiao Zhouyi

PHYSICAL REVIEW E · 30 JUL 2026

● SUBMITTED TO PHYSICAL REVIEW E, JUL 2026

RESEARCH ATLAS

—[HTTPS://ZHOUYI-XIAOXIAO.GITHUB.IO/VALLEY-K-SMALL/](https://zhouyi-xiaoxiao.github.io/valley-k-small/)

Programmable multimodality and saddle-node loss of reaction-time peaks under a fixed catalyst budget

Xiaoxiao Zhouyi

SEP 2026

🔗 MANUSCRIPT IN PREPARATION

REPRODUCTION ARCHIVE

—[HTTPS://GITHUB.COM/ZHOUYI-XIAOXIAO/PRESCRIBED-REACTION-TIME-MODES](https://github.com/Zhouyi-Xiaoxiao/prescribed-reaction-time-modes)

Spectral diagnostics and local fixed-budget sensitivity of critical points in finite encounter-reaction models

Xiaoxiao Zhouyi

JUL 2026

● WORKING PAPER

ROLES

Jun 2026	AI lead (R&D) <i>From June 2026, alongside the PhD: the company's AI platform and model gateway, its AI transformation, and AI for global messaging.</i> ● ONGOING
14 Nov – 16 Dec 2025	Graduate Teacher · Demonstrator <i>Weeks into the PhD: a Demonstrator contract in SEMT and a Graduate Teacher contract in the School of Mathematics.</i> ● COMPLETED

3 Nov 2025

PhD researcher

From 3 Nov 2025 in SEMT: random-walk first-passage times – why a single target can produce two arrival peaks.

● ONGOING

4–16 Aug 2025

Researcher (Internship)

4–16 August 2025, Silicon Valley: finding the most reliable way to turn product manuals into clean Markdown for an AI knowledge base.

● COMPLETED

31 Aug – 5
Sep 2026

Platform developer

An AI career-matching platform for a university's Beijing centre: upload a CV, confirm a profile, see matches explained on six dimensions.

● LIVE

Jul – Sep
2024

Research intern

Summer 2024, through the Sichuan–Hong Kong internship programme: market research, large-scale data cleaning and a first real office.

● COMPLETED

PATH

Aug 2021 –
Jun 2025

Mathematics and Applied Mathematics, Tianjin University

Sep 2024 –
Sep 2025

MSc Engineering Mathematics, University of Bristol

Sep 2024 –
Sep 2025

MSc dissertation: first passage in confined random walks

24 Jul – 16
Aug 2025

Silicon Valley Entrepreneurship Program

4–16 Aug 2025

LiveX AI – Researcher (Internship)

11–16 Aug
2025

An open retrieval-QA benchmark for document parsers

ALL CHAPTERS

研 01 First Passage

Why can a single target produce two arrival peaks?

智 02 Skipping the IME?

Can you skip the input method and just type pinyin to an AI agent?

企 03 The Engine Room

展 04 On Stage

Since June 2026, AI lead (R&D) at Yuexin International: the internal AI gateway, an enterprise platform for governed model access, the staff AI assistant, and the connectors that let agents work inside the company's own tools.

教 05 Teaching

A Graduate Teacher from the first month of the PhD: problem classes, labs, marking and tutorials – now thirteen teaching roles across eleven units in three schools, run with the same AI-native habits as the research.

创 07 Map in. Traps out.

First-passage maths turned into a product: BioPath takes a site map and a budget and returns where to put the traps – with the proof attached.

行 09 Westward

Summer 2025: a university programme in Silicon Valley and a two-week research internship at LiveX AI, where the question was how to turn messy manuals into Markdown an AI can actually use.

学 11 Roots

Tianjin, Hong Kong, Chengdu, Geneva, Bristol: a maths degree with an oar in hand, an exchange year that turned the maths computational, a first internship, and the 3+1 route – the first shortcut, which skipped a year.

信 0 The absorbing boundary

How a messaging company learns to present itself as an AI company: a first overseas brand push, a logo argued from four sketches into one mark, print kits for two trade floors, and a 93-minute primer that taught the LLM industry through SMS.

代 06 Representing

Speaking for other PhD students, and for the university: two years as Engineering Mathematics PGR rep, a scholarship reading panel, open days, a science festival – and seven minutes of stand-up about doing a maths PhD.

媒 08 Signal

A camera roll kept since 2023, a WeChat studio launched in August 2026, LinkedIn as a public notebook, a home-built bilingual subtitle pipeline – and the long making-of of the site you are reading.

作 10 Workshop

Things built in the gaps: a maths guide for the next cohort, a travel-story studio born at a hackathon, a cursor that jumps between screens, bridges that let AI agents hand work to each other – most of them made so that someone else could move faster.

今 12 Now & Next

As at the build date: a poster to present in Edinburgh, a paper submitted to Physical Review E and another in preparation, a desktop agent in development, a new teaching year and a second year as PGR rep.



ZHOUYI XIAOXIAO

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agents · AI lead

ELSEWHERE

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[For agents: llms.txt · profile.json: llms.txt ·
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NO ANALYTICS, NO COOKIES.