Owain West

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Owain is ideal for technically and organizationally demanding roles, with particular expertise in data engineering, NLP, and end-to-end project delivery. See **owainwest.com** to learn more.

Experience

TickPick | Data Engineer
New York | May 2022 - Present

- Leading TickPick's Data Engineering initiatives, orchestrating data flows through the organization with **Snowflake**, **Databricks**, and **Azure ML**.
- Successfully transitioned from legacy Airflow DAGs to Databricks ETL, reducing costs by >70% and errors by >95%.
- Led technical implementation of pricing comparison and margin optimization initiatives affecting >$50 million in ticket inventory. Automated daily comparisons against >100k competitor ticket listings across multiple exchanges to ensure price dominance.
- Automated acceptance of externally delivered ticket transfers, reducing average time-to-transfer by over 95% and fundamentally enabling successful launch of industry-unique "autotransfer" broker-to-broker app feature.
- Mentored junior engineer and other data team members, while adeptly managing >300 data pipelines (>150 self-written) handling >400 million active rows monthly.
- Developed Snowflake integration for direct access to **Azure ML** models via SQL from **dbt**, enabling ergonomic data analyst access to ML features.

Thinknum Alternative Data | Jr Data Engineer
New York | Jan-March 2022

- Built ETL pipelines for open web data extraction, including e.g. ingesting detailed information on >5 million top Stackexchange users.
- Resigned on moral grounds after being asked to scrape military-related data following start of Ukraine war.

University of Waterloo | CS Teaching Assistant; CS 135, CS 245, CS 330 (3x). 1/sem.
Waterloo, CAN | Sep 2019 - Dec 2021

- Provided feedback to students, graded evaluations, and aided in course development. For CS 330, taught students rudiments of business-pertinent data methodology spanning data engineering and analytics.

Royal Bank of Canada, Toronto Innovation Lab | Software Engineer Summer Hire
Toronto, CAN | May-Aug, 2017-19

- Awarded **patent** `https://patents.google.com/patent/US11403465B2/en` for NLP and computer vision work underlying a financial document information extraction system, including pdf-optimized visual table parser. Self-directed NLP work during S'17 period catalyzed the formation of a NLP team within the Toronto Innovation Lab by S'18.
- Independently built natural-language interface to RBC market research documents, spawning cross-vertical partnership with Capital Markets and delivering successful PoC.
- Designed conversational interfaces for new hire onboarding and employee benefits selection. Led discussions with external vendors to continue development of benefits selection project, ultimately resulting in adoption of chatbot-based benefits selection assistance company-wide.

University of Pennsylvania | (Head) Teaching Assistant; LGIC 010 (3x), CIS 160
Philadelphia | Jan-May, 2017-2019

- Coauthored a **textbook** for LGIC 010 class, available freely at `https://cis.upenn.edu/~weinstei/PQT.pdf`.
- Led other TAs and developed curriculum for LGIC 010. Provided instruction, graded evaluations, and gave feedback for LGIC 010 and CIS 160.

University of Pennsylvania | (Senior) Information Technology Advisor
Philadelphia | Sep-May, 2015-2017

- Provided technical support, solving network and security problems for university members.
- Directed and technically trained other ITAs, leading onboarding and handling requests requiring escalation.

UPenn Student Federal Credit Union | Supervisory + Information Systems Committees
Philadelphia | Sept-May, 2016-2018

- Conducted regular audits to comply with Federal banking regulations.
- Advised on the SFCU's digital infrastructure and web presence, contributing to visual overhaul of site.

Bridge: Freshman Mental Wellness | Founder, Co-President
Philadelphia | Sep 2015 – May 2017

- Founded Bridge, a student organization at UPenn that provided peer-based mental health support. The organization's impetus is described in `https://www.thedp.com/article/2015/07/mental-health-helpers-2019-facebook-group`.

Education

University of Waterloo | MMath in Computer Science
Waterloo, CAN | Sep 2019 - Dec 2020

- **Selected graduate coursework, $\geq 90\%$ (equiv. A+) grade:** Advanced Topics in AI (**Fairness, Accountability, and Transparency in ML**); Advanced Topics in Bioinformatics (**Machine Learning in Proteomics**); Advanced Topics in Algorithms and Complexity (Automatic Sequences); Computer-Aided Verification

University of Pennsylvania | BA, Magna Cum Laude | 3 Majors
Philadelphia | Sep 2015 - May 2019

Logic, Information, and Computation; Computer Science; Philosophy and Science

- **Selected graduate coursework, $\geq$ A- grade:** Logic and Computability; Topics in Logic (Modal Logics); Topics in Logic (Set Theory); Differential Geometry; **Networked Systems**; Topology; Finite Model Theory and Descriptive Complexity; Topics in Cosmology (Galactic Dynamics)
- Was selected as LGIC (Logic, Information, and Computation) departmental Convocation flagbearer in recognition of academic standing.

Expertise

- **Languages**: Julia • Python • SQL • NodeJS • K • OCaml • Rust • TLA+ • Lean 4 • **Cloud+devops**: AWS, Azure, GCP, Docker, Kubernetes
- **NLP**: LLMs, GPT, BERT, NLTK, spaCy, Conversational Design • **ML Generally**: Pandas, NumPy, PyTorch, scikit-learn, Flux (Julia), Spark • **ML Ethics**: fairness definitions and dynamics; see `https://owainwest.com/fairness_dynamics.pdf`
- **Data Engineering** Airflow, Dagster, dbt, Snowflake, Spark, Singer.io, Airbyte, ADF, PostgreSQL, Redis • **Dashboards** Looker, Tableau
- **Misc**: **Web** Django, Flask, React • **Proteomics**: Applied LLMs (eg alphafold), BLAST, Uniprot • **Formal methods**: TLA+, Lean4 • **Mathematics** (graduate): logic, topology, algebra, differential geometry, complexity theory, combinatorics