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# Lachlan Kermode

## ML/systems engineer

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My current interest is in the design and implementation of production machine learning systems, with a focus on streaming engines that process real-time data and the feature store as an abstraction layer. My experience is with models that require image, video or tabular input. For the summer of 2023, I am looking for an internship in the research and development of streaming systems at scale. See [my website](#) for my writing and open source work, and [my portfolio](#) for musical and artistic experience.

## SKILLS

Languages	Node/JS, Rust, Python, Java, C/C++
Platforms	AWS, Docker, GCP, Flink, Kubernetes, PyTorch, React, VueJS
3D and Design	Blender, Maya, Unity, Figma, After Effects, Premiere Pro
Communication	English, Italian (fluent), Latin (some).

## TECHNICAL EXPERIENCE

### Senior Software Engineer

Feb 2022 — Sep 2022

*Halter*

*Auckland, New Zealand*

- Specialising as a machine learning engineer, architected and built a feature store to compute real-time uplinks from IoT devices using Kinesis streams and Apache Flink on AWS.
- Contributed to microservices in Java, Node and Python (SNS/SQS, DynamoDB, and PostgreSQL)
- Built, configured and monitored cloud infrastructure with Terraform, Concourse CI, Grafana, and AWS.

### Advanced Researcher / Software Lead

Jul 2018 — Jan 2021

*Forensic Architecture*

*London, UK*

- Full stack engineering in React, Vue, Python and Golang for various full stack platforms.
- Developed machine learning workflow to train computer vision classifiers on synthetic data generated in Unity, and then to deploy on public domain media from Youtube and Twitter.
- Written and maintained devops CI/CD infrastructure in Ansible and Terraform for several live platforms.
- First author of [paper at NeurIPS 2019](#) on the use of synthetic data in computer vision, as well as co-author of [follow-up paper at WACV 2022](#).

### CTO and co-founder

Aug 2016 — Mar 2017

*DirectDrinks*

*Wellington, New Zealand*

- Bootstrapped an end-to-end stack across web, mobile and tablet for a startup that provides a direct sales channels between large corporate suppliers and small resellers in the FMCG industry, disrupting a pipeline that is currently dominated by mid-tier redistributors.

### Full stack and mobile freelancing

Jun 2016 — present

*various*

- Designed and developed MLOPs workflow in GCP for deploying inference capability at [SMAT](#).
- Co-designed and developed website at [The Syllabus](#).
- Developed Python libraries to simplify data engineering workflows from Jupyter at [Merantix Labs](#).
- Developed an Objective C SDK for an OAuth2 verification flow and prototyped two React Native applications for [Inflection](#).

## EDUCATION

Masters in Computer Science, *Brown University*

exp. 2023

PhD in Modern Culture and Media, *Brown University*

exp. 2026

A.B. in Computer Science, *Princeton University*

2013 — 2018

## PAPERS/OTHER

- [Detecting Tear Gas Canisters With Limited Training Data](#). Ashwin D'Cruz, Christopher Tegho, Sean Greaves, **Lachlan Kermode**. (WACV 2022.)
- [Objects of violence: synthetic data for practical ML in human rights investigations](#). **Lachlan Kermode**, Jan Freyberg, Alican Akturk, Robert Trafford, Denis Kochetkov, Rafael Pardinas, Eyal Weizman, Julien Cornebise. (NeurIPS 2019.)

I coordinate and run a reading group on technology and society called [A.R.G.](#)

2019 — present

I have several years experience giving workshops and teaching, more details in my [academic CV](#).

2019 — present

I have contributed to exhibitions at Whitney (NY), De Young Museum (SF), Tate Britain (London), and [others](#).

2018 — present

I have acted and written music for various musical and theatre projects, more details available in my [portfolio](#).

2013 — present