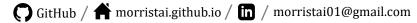
Morris Tai

(Tai, Ping Chuan)

EXPERIENCE



Trend Micro

Sr. Software Developer
Ontario, Canada. 08/2022 - Present

Software Developer
Taipei, Taiwan. 03/2021 - 07/2022

Development and Operation of XDR Platform Backend and Data Lake.

ETL Pipeline:

- Works on a pipeline that processes real-time logs from upstream products within the Databricks
 ecosystem, optimizing file sizes and counts to reduce database load. Integrates Azure Data Explorer
 for time-series OLAP DB, optimizing resource usage by segmenting workload groups and ensuring
 high availability with leader/follower database patterns.
- Constructs and manages the ETL pipeline infrastructure(Terraform, Helm, etc.), enabling multitenancy, abstracting region/environment configurations, and incorporating CI/CD processes. Enhances observability by establishing metrics that monitor throughput for each component and measure latency at different stages within the pipeline. Collaborates with threat research teams to develop data schemas.
- Developed and managed a streaming platform using the Kafka ecosystem as an identity detection security backend. Implemented various Spring Boot microservices, including asynchronous streaming with the Java reactive runtime. Utilized C++ through JNI for parsing metadata. Expanded support for downstream products. Managed and iterated Avro and Protobuf schemas, integrating them with the Kafka Schema Registry. Worked with the threat research team to develop a detection pipeline using Airflow and Apache Spark.
- Migrated the architecture from a VM-based system to Kubernetes. Managed the transition from Ansible to Helm, focusing on parameterization and performance tuning. Replaced Fluentd with a sidecar, introducing tracing and logging capabilities through Loki and Tempo.

API Development:

- Develops APIs for downstream teams, incorporating serverless functions, Cosmos DB, and asynchronous APIs for efficient querying and handling of large raw logs in the Data Lake.
- Implements dynamic sliding windows, designs custom queries for APT detection, and improves search efficiency with cross-team search/index and pre-filter mechanisms.

Security and Research:

- Researched and integrated <u>container security</u> solutions with Falco and eBPF/Kernel Module. Gained a good understanding of the low-level aspects of the container ecosystem, such as namespaces, cgroups, OCI, Shim, MicroVM, etc.
- Advocated for the Rust language since 2021, guiding the team through its features and examples. Rewrote some of the serverless functions in the pipeline using Rust.
- Addressed container vulnerabilities to comply with FedRAMP/PCI standards and conducted architectural reviews for SOC/ISO audits.

Intel

Intern. Software Engineer (full-time)

Taipei, Taiwan 08/2019 – 09/2020

- Studied the graphics driver source code in User/Kernel Mode to understand how SSE/AVX SIMD
 works. Assisted the team in debugging graphics drivers using WinDbg and mem dumps. Wrote a
 parser tool capable of extracting Panel EDID and meta data produced by the driver.
- Developed a dashboard with mini ETL using Flask and Plotly for driver issues, enabling data aggregation and filtering for the team.

– EDUCATION -

National Changhua University of Education

Sep 2016 to Jun 2020

• Bachelor of Management Information System (GPA: 3.8 /4.0)

OpenDAL Committer Apache Software Foundation	April 2023 to Present
 OpenDAL aims to provide efficient data access from various storage distributed, low latency, and high performance. I contributed to the implemented various services and layers, such as limiting IO througencryption. I developed Rust code that natively supports Databrick Hugging Face FS. I designed concurrent stat to speed up listing, amo PRs: https://github.com/apache/opendal/pulls?q=is%3Apr+autho 	Rust core library and ghput and server-side s FS, OpenStack Swift, and ong other features.
CERTIFICATE	
CKAD: Certified Kubernetes Application Developer The Line	ux Foundation
• ID Number: <u>LF-he54r5sc2f</u>	Mar 2024 to Mar 2027
——————————————————————————————————————	
Big Data Competition Championship Microsoft/Cathay med	<u>lia</u> Sep 2016 to Jan 2017
• As the team leader, I analyzed the data and wrote predictive models learning and stacking model, built a solution on Azure. Through det the relationship between insurance and cancer.	•
AIME: American Invitational Mathematics Examination certi	ficate Mar 2014
• Invited for being in the top 2.5% of participants worldwide in the A	MC 12
SKILLS	_
 Programming Languages: Multilingual (not limited to any specific in Rust, Python, and comfortable with Go, Java, C, and C++ (in rando Rust: 2+ years with Rust. Familiar with Cargo, understand common Rust asynchronous mechanism(refer to my PR), and unsafe usage. Oprofiling. Contributed to Rust repositories and participate in the constrainer. Understand the general architecture of cloud systems. DevOps: Terraform, Ansible, Kubernetes, Helm, Grafana, Promethe 	om order). I traits and procedural macros, Currently studying for advance mmunity in my free time. Kubernetes ecosystem, and WASM

OPEN SOURCE -

Personal Blog

Action, etc.

machine learning.

- Blog: https://morristai.github.io/
- My Note on Rust and its related aspects: Link

Algorithm / Data Structure

• I wrote Rust solutions without recursion to help others get a better grip on ownership: https://leetcode.com/Morris Tai/

• Data: Kafka, Spark, PostgreSQL, S3, Blob, ClickHouse, Avro, Parquet, Protobuf, Structured-data

MISCELLANEOUS -