Chawinphat (Teddy) Tankuranand

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Education

University of California, Berkeley — Berkeley, CA
B.A. in Computer Science — *Aug. 2021 – May 2025*
GPA: 3.8, Upsilon Pi Epsilon (Computer Science Honors Society)

Relevant Coursework: Operating Systems, Computer Architecture, Database Systems, Internet Architecture, Computer Security, Decentralized Finance Systems, Artificial Intelligence, Algorithms and Intractable Problems, System Administration, Web Development, Data Structures, Data Science

Experience

AWS OpenSearch — Aug. 2023 - Current
Open Source Contributor — *Berkeley, CA*
- Received recommendation from Principle Engineer Daniel Doubrovkine as a result of contributions.
- Introduced a streamlined wor to manage OpenSearch documentation through a Github Actions Workflow that mirrors repository updates onto Github Wiki, allowing broader community involvement in documentation efforts.
- Refined OpenSearch Docker containers by adding features such as support for default signal handlers to allow graceful termination of containers, parallel image extraction to increase deployment speeds by 1.5 times

KKP Financial Group — May 2024 - Aug. 2024
Software Engineer Intern — *Bangkok, Thailand*
- Automated Data Governance Efforts for KKP Databases by proposing and leading the development of a workflow to secure role-based access control on Databricks Metastore Objects using Databricks SDK, and Apache Spark
- Engineered logging pipeline to track changes to access controls using Azure Monitor Logs

UC Berkeley - CS 186 Database Systems — Aug 2024 - Current
Teaching Assistant — *Berkeley, CA*
- Developing new 2 Phase Commit (2PC) Project in team of 6 testing distributed transactions
- Teaching weekly discussion sections for classes of over 20 students on Database Internals, Query Optimizations, Recovery, Parallel Query Processing, and Distributed Transactions
- Improving and Maintaining course infrastructure such as Autograder, Course Website, and Projects.

Agoda — May 2022 - Aug. 2022
Software Engineer Intern — *Bangkok, Thailand*
- Designed and implemented an automatic front-end test coverage calculation framework using web analytic data for over 300 E2E test cases using Javascript, C# .NET, and Selenium.
- Developed SQL Query to visualize test coverage by comparing test data with over 10 million daily data points from web traffic using Impala SQL and Metabase.

Publications and Research

Microsoft Research and Berkeley Sky Computing Lab — Jan. 2025 - Current
- Designing Fault Tolerant distributed consensus protocols for trusted execution environments (TEEs)
- Developing Distributed Key Value Store running this consensus protocol, supporting byzantine and crash fault tolerance.

Piscou: Enabling Replicated State Machines to Communicate Efficiently — Jan. 2024 - Jan. 2025
19th USENIX Symposium on Operating Systems Design and Implementation (OSDI '25)
- Developed Kafka Pipelines that fully provide communication between two arbitrary replicated state machines to evaluate Scrooge, a novel cross-cluster communication protocol.
- Designed and automated experiments testing Kafka as a bridge for Raft, Disaster Recovery, and Confidential Consortium Framework in local and geodistributed settings using Google Cloud Platform.

Skills

Programming Languages: Java, Python, C, C#, SQL, MQL, JavaScript, Scala, Go, Bash, Rust, C++
Technologies: Apache Kafka, Apache Spark, Raft, Google Cloud Platform (GCP), Amazon Web Services (AWS), Azure, Docker, Kubernetes, Terraform, Databricks, Github Workflows, Git, MapReduce, gRPC, MongoDB, Firebase, Consensus Protocols, Byzantine Fault Tolerance, Distributed Systems
Languages: Native in English and Thai