
EDUCATION	Columbia University , Columbia College <i>B.A. Computer Science, Concentration in Mathematics</i> (GPA: 3.90) Select Coursework: Graduate Operating Systems, Graduate Compilers and Programming Language Theory Teaching Assistantships: Compilers (Head TA), Parallel Functional Programming, Artificial Intelligence	New York, NY Sep 2020 – May 2024
INDUSTRY	Palantir Technologies Software Engineer Intern , <i>Gotham Data Modeling Team</i> <ul style="list-style-type: none">• Backend engineering for Palantir Gotham (U.S. Gov) and Foundry (commercial sector) data ontology services• Built API services for interoperability and distributed synchronization of Gotham and Foundry data entities• Related technologies: Java, API Engineering, Distributed Systems Virtu Financial Software Engineer Intern , <i>HFT Pre/Post-Trade Development Team</i> <ul style="list-style-type: none">• Implemented mTLS for async TCP sockets with low-level Java interfaces for core trading infrastructure• Migrated stunnel-based TLS support in real-time trade ingestion system to use custom mTLS implementation• Implemented proprietary authentication & authorization mechanism into company's post-trade data services• Related technologies: Java standard libraries (concurrency, NIO, security, networking), Java Spring Riot Games Software Engineer Intern , <i>Live Operations Engineering Team</i> <ul style="list-style-type: none">• Built a GitOps-based config management service for Riot's service alert ingestion systems• Built a CI/CD pipeline to deploy configs to monitoring systems and execute rollbacks at crash• Related Technologies: Python, Docker, Jenkins	New York, NY Sep 2023 – Dec 2023 New York, NY May 2023 – Aug 2023 Los Angeles, CA (Remote) May 2022 – Aug 2022
RESEARCH	Compilers & Programming Languages with Prof. Stephen Edwards <ul style="list-style-type: none">• Building <i>sslang</i>, a language implementing the Sparse Synchronous Model for deterministic concurrency• Implemented a session-typed lambda calculus interpreter to explore statically verified concurrent programs• Related Technologies: Hindley-Milner Type System, Session Types, Haskell, OCaml Secure Containerization on ARMv9 Linux Realms with Prof. Jason Nieh <ul style="list-style-type: none">• Contributed to ARMv9 Realm container monitor that protects container memory against untrusted host OS• Wrote kernel interfaces to a hypervisor-like container monitor for lifetime and memory management• Related Technologies: Linux Kernel Engineering, ARMv9 Linux, Assembly, Micro-OS, Hypervisors (KVM)	Sep 2022 – May 2024 Sep 2022 - May 2023
SKILLS	Areas: Backend Development, Distributed Systems, ML Systems, Linux Kernel Engineering, Compilers Programming Languages: C, C++, Java, Python, OCaml, Haskell, Rust, RISC Assembly Technologies: LLVM, MLIR, Hypervisors, Containerization, PyTorch, Tensorflow, SQL	
SOFTWARE	Encrypted-TAO , built with Rust and Postgres <ul style="list-style-type: none">• Implemented Facebook's social graph serving model (TAO), but capable of operating on fully encrypted data• Implemented graph-to-SQL query translation, and order-preserving/homomorphic encryption schemes Orlang , built with OCaml and LLVM <ul style="list-style-type: none">• Built <i>Orlang</i>, a functional programming language with a Hindley-Milner type system and first class functions RLCycle , built with Python, PyTorch, Ray, ZeroMQ <ul style="list-style-type: none">• Implemented deep reinforcement learning algorithms and distributed training; got over 280 Github stars	[GitHub] [GitHub] [GitHub]