

DESMOND CHEONG

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EDUCATION

Brown University

Sc.B. in Computer Science, GPA 4.0/4.0

Graduating May 2022

Coursework: Operating Systems Laboratory, Distributed Computer Systems, Database Management Systems, Topics in Database Management (Graduate), Machine Learning, Data Science

SOFTWARE ENGINEERING EXPERIENCE

Linux Foundation

Linux Kernel Intern

International

Jun 2021 – Present

- Improved the security of the Linux kernel by analyzing crash logs, and correcting architecture designs, to fix dozens of memory corruption and potential denial-of-service errors
- Collaborating with maintainers to debug a wide range of Linux subsystems, including the graphics stack, the Bluetooth stack, core memory management, multiple file systems, and other device drivers

Systems@Brown

Undergraduate Research Assistant

USA

May 2021 – Present

- Developing an observability framework with Dr. Theophilus Benson to manage extended Berkeley Packet Filter (BPF) based networking, which is used to support high-speed packet processing in large-scale distributed systems

Intellex

Data Science Intern

Singapore

May 2020 – Aug 2020

- Refined the core product's written law extractor to increase the detection rate by 50% for a major client in a new domain
- Automated the collection of structural legal information using web scrapers which enabled the creation of new products

Findify

Business Development Intern

Sweden

Jun 2019 – Jul 2019

- Established the quality assurance process used by all engineers when integrating Findify's software with a client's website
- Launched a playbook to inform clients' strategic usage of the product's core recommendation system

LEADERSHIP EXPERIENCE

CSCI 1270: Database Management Systems

Head Teaching Assistant

Mar 2021 – Present

- Leading a team of 9 teaching assistants to develop Brown's first fully-functional database system project in Go, featuring cache management, B+ tree indexing, query processing, concurrency control, logging, and crash recovery

DATA 1050: Data Engineering

Teaching Assistant

Sep 2020 – Dec 2020

- Established a brand new section of the course covering distributed computing with Apache Spark

CSCI 1450: Probability for Computing and Data Analysis

Teaching Assistant

Sep 2019 – Dec 2019

PROJECTS

TRustDB

- Designed a highly performant database in Rust to manage high-cardinality time series data
- Increased the speed of query evaluation by 7.5–247x with boolean logic-based query optimization
- Reduced the storage costs of metadata by up to 18% through index compression with finite state transducers

CPython (Open Source Contributor)

- Enhanced the Python programming language to support cache invalidation for modules imported from zip archives

HackOMania 2018 (First-Place Team)

- Built low-cost attachments with Arduinos and Raspberry Pis to transform ordinary switches into a network of smart switches

SKILLS

Languages

C++, C, Go, Python, SQL, JavaScript, Clojure, Rust

Technologies

Linux, Git, GNU Debugger, BPF, Arduino, Apache, DigitalOcean, Databricks, Flask, gRPC

Interests

Swing dancing, Literary arts, Meditation, Neural systems, 18-20th century Southeast Asian history