

Edmund A. Miller

COMPUTATIONAL BIOLOGIST · SOFTWARE DEVELOPER

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Experience

Functional Genomics Lab(Prof. Tae Hoon Kim)

Richardson, Texas

RESEARCHER

Jul 2015 - PRESENT

- Created a pipeline to reproduce and create new eRNA predictions using Snakemake.
- Used techniques such as containers, conda environments, and high-performance computing clusters.
- Created various resources for the lab such as JupyterHub and the organization of the lab's documentation.
- Designed PCR primers for cell identification, target transcripts, and genotyping.
- Performed RNA isolation from cells that were treated with LPS-particles and used qPCR to quantify eRNA transcript levels.

Olypsis Technologies

Dallas, Texas

BLOCKCHAIN SOFTWARE ENGINEER

May 2018 - PRESENT

- Lead development and design of completing tasks including, creating a functioning test suite for legacy code, containerizing the entire system, designing and implementing a REST API and Smart contracts for the system.
- Created a novel ERC20 payment splitter Smart contract in Solidity for Digital Assets Foundry.
- Improved velocity by creating in house standards for CI/CD for Javascript and Solidity projects using linters and test suites to ensure agile development practices through automated deployments, and creating auto generating documentation from inline code documentation.
- Developed the DAWN protocol to transfer files in a peer to peer fashion, that is decentralized and does not rely on a 3rd party to be trusted using Whisper, IPFS, AES256, and React.
- Developed Smart contracts for the Saro Project to create smart contracts for users to create non-fungible tokens of their real estate and split the ownership of the property using fungible tokens.

Skills

Tools	Nextflow, Nix/OS, Snakemake, Conda, Slurm
Programming	Python, Node.js, Rust, R, Solidity, Bash/ZSH, Clojure
DevOps	Docker, GitHub Actions, GCloud, AWS, GitLab-CI, Kubernetes
Front-end	React, Vue, Nextjs, Gatsby, Redux, Hugo, HTML5, CSS
Decentralized Technologies	IPFS, Whisper, Ethereum Virtual Machine

Education

University of Texas at Dallas

Richardson, Texas

PH.D. IN MOLECULAR AND CELL BIOLOGY

Aug 2020 - Present

Fall 2020 - TA for Biochemistry

University of Texas at Dallas

Richardson, Texas

M.S. IN BIOTECHNOLOGY

Aug 2018 - Dec 2019

- Academic Excellence Scholarship 2015-2019
- Fast-Track Program

University of Texas at Dallas

Richardson, Texas

B.S. IN MOLECULAR BIOLOGY

Aug 2015 - Aug. 2018

- Academic Excellence Scholarship 2015-2019
- President's Scholarship 2016-2017
- Continuing Student Scholarship 2017-2018

Projects

mlf-core

Preprint

CORE

Jan 2021 - PRESENT

- Deterministic machine learning project templates based on MLflow.
- Pending Publication

nf-core

GitHub Page

COMMUNITY MEMBER

Mar 2020 - PRESENT

- Recreating enhancer transcript pipeline for processing GRO-Seq.
- Lead Creation of unit and e2e tests and CI refactoring for DSL2 Modules.