

Dino Morelli

dino@ui3.info | github

Experienced software engineer specializing in functional programming with Haskell on Linux systems. Strong background and experience in back-end data processing and tool building.

Skills

- Languages: Haskell, Scala, Python, bash, Java, Perl
- Web: REST, Servant, happstack, Snap framework, LetsEncrypt
- Database: MongoDB, PostgreSQL, MySQL, Sphinx search
- Cloud/devops: AWS, Azure, Ansible, Docker
- Linux/UNIX: Arch, Ubuntu, Debian, Red Hat, CentOS, Solaris
- Blockchain: Cardano (ADA), Haskell, Plutus
- Miscellaneous: Apache, nginx, Android, epub

Experience

Input/Output Global (remote)

2021 Apr to 2021 Sep (unpaid volunteer) Student and volunteer for the Plutus Pioneer Program, learning about building smart contracts on IOG's Cardano blockchain

- Participated in the first-ever session of the class to learn smart contract development with Haskell and the Plutus language. Plutus is the on-chain form of Cardano smart contracts.
- Mentoring and teaching first-time Haskell programmers
- Contributed a large amount of critical community documentation for getting started and maintaining the Plutus development packages on Linux systems. This includes documenting installation and maintenance of Nix.
- Contributed systemd unit files for developing with the Plutus Playground, a web-based environment for developing and running Cardano smart contracts on a local blockchain simulator.

Edwards Lifesciences (remote)

2020 Apr to 2021 Mar - Software Engineer (contract) Updates and new features for a system tracking chemical composition and regulatory compliance across Edwards' entire medical devices enterprise

- Complex report generation leveraging Haskell and Oracle SQL database
- Significant developer environment and infrastructure work for deployment on AWS
- REST servers using the happstack framework

HERE Technologies (remote)

2019 Jun to 2019 Dec - Software Engineer (contract) Location data transformation work using the HERE Tech Open Location Platform

- Wrote Protocol Buffer schemas and processed them into Scala
- Wrote Scala software to manipulate these data structures
- Performed location data transformations on the Spark-based OLP system

Honu Apps LLC (Raleigh, NC, USA)

2014 Nov to present - Co-founder, Software Engineer Software development consulting services

- Kitchen Snitch restaurant health inspection app. Back-end data-acquisition and REST server made with Haskell, MongoDB, Google Maps, Geocoding and Places APIs, AWS
- SigMet Solutions weather forecast HPC cluster automation and web development. Haskell
- SpectraHex Android puzzle game. Written in highly-functional Scala. Source

Panasonic Weather Solutions (Morrisville, NC, USA)

2011 Mar to 2018 Feb - Senior Software Engineer Producing weather forecast products on high-performance computing clusters

- Haskell and Scala used extensively to parallelize weather forecasting processes on a high-performance computing cluster. CentOS, Slurm, Lustre
- Scala REST server work in support of various products

- All system design features functional programming techniques

Burlington Aviation Technology School (Burlington, VT, USA)

2009 Aug to 2011 Jun - Software Engineer (contract) Custom web-based education solutions for Avionics students

- Designed and built the GROLPrep website, a study tool and test simulator for the FCC GROL and Radar Endorsement exams
- Haskell, happstack, SQLite. Source
- Try GROLPrep yourself

AT&T Network Security (Morrisville, NC, USA)

2007 Oct to 2009 Jun - Software Engineer (contract) Member of the Network Security group responding to spam and copyright violation complaints

- Architect and lead developer on a copyright infringement notification system written in Haskell
- Wrote custom email APIs and extensive Perl unit test automation for an existing complaint processing system
- Haskell, Perl, MySQL, XML, email parsing and generation, UNIX daemons, concurrency, process control

Open source software development

I have been a contributor to open-source projects, mostly Haskell: xmobar, cabal-install, dars, string-conv, TagSoup.

I created and maintain many open-source projects including: py-mkvenv, epub-tools, epub-metadata, hinstall, uacpid, hsrtmpl, photoname.

Over 50K lines of original code in Haskell alone.

These projects are hosted and documented in detail on github.

I run the local Haskell Meetup in downtown Raleigh, NC.

I am experienced in epub creation and maintain the epub edition of “(Nothing But) Flowers” by John G. McDaid, a Creative Commons licensed work of fiction.

Education

Plutus Pioneer Program

Input Output Global’s online class for smart contract development with Haskell/Plutus on the Cardano blockchain

Functional Programming Principles in Scala

Ecole Polytechnique Federale de Lausanne via Coursera

Statistics 1

Princeton University via Coursera