

Experience:

- **Go Outside**³ – Lead Engineer — January 2023 ~ present (contract)
social networking
 - Supervising, instituting, and enforcing best practices for code.
 - Found, campaigned for, developed, administered, and persuaded management to adopt my recommendations for cloud provider, and backend components.
- Jackson Street Capital LLC – Director of Analytics — 2018 ~ 2021 (contract)
Venture capital
 - Inherited an internal tool updating it to use **Spring Boot**, which was enhanced over the years, raising [test coverage](#)⁴ for the various endpoints and keeping them available publicly for users, reducing development time for portfolio companies immeasurably.
 - Social network, a **Ruby on Rails** project, for portfolio companies to communicate/collaborate in a secure, private manner. My responsibilities included its upkeep and automating as much maintenance as possible.
 - Jobs site for startups compensating in equity-only. For some of our startups that wished to have such a list.
 - Initiated, wrote (using **Ruby On Rails**' best practices), deployed on [Heroku](#)⁵, and maintain a project management tool.
 - Set up a [video chat solution](#)⁶, written in **Java** to conduct our conference calls, allowing us to not have to rely on others' infrastructure for often-private communication, using NodeJS to serve **iOS, Android, Windows mobile** and web clients.
 - Smart address book that automatically recognizes web pages, email addresses, street addresses, and dates in **Ruby on Rails**.
 - Wrote [backend](#)⁷ and [ngrok/tor helper](#)⁸ to let one get their bank balances and verify whether one can afford the purchase or not, eventually, planning to add a mobile app and SMS support.
 - Continuous Integration System written in **python**, parsing the [junit](#)⁹-formatted XML results file and alerting me to when tests fail to pass by email and SMS (using [Twilio](#))¹⁰.
 - [My world clock](#), so I don't call people at odd hours, with time sourced from [PostgreSQL](#) written using **Perl**.
 - [CurrencyStack](#)¹¹ is a **Python**¹² wrapper for [CurrencyStack](#)¹³'s REST API.
 - HTTP network up-time tool
 - [Alexa](#)¹⁴ Skill to read a Twitter feed for a number of seconds, freeing your eyes to focus on other items of relevance.
 - Using **Python**, **LaTeX**, and the [Reddit API](#)¹⁵, enabled one to publish given any subreddit as a PDF newsletter.
- Zppixbot (acquired by Miraheze) – Backend Engineer March, 2022 ~ June, 2022 (contract)
Leading provider of chat bots for mediawiki-powered sites like wikipedia
 - Add functionality for currency and unit conversion using **PHP** and **Python**.
- Copilot Travel April 2020 ~ October 2020 (contract)
Travel-booking site
 - Increase test coverage and maintain a continuous integration/continuous deployment system.
 - Authored a white paper on how multimodal travel could be used to ensure punctuality.
- Fiskkit October, 2015 ~ present (contract)
Separating fact from fiction in America's English-language news media
 - Wrote and debugged [Docker](#)¹⁶ image, reducing new developer on boarding time from days to hours.

¹<https://linkedin.com/in/hdiwan>²<https://www.prolificprogrammer.com>³<https://go.outside>⁴<https://units.d8u.us/test>⁵<https://heroku.com>⁶<https://chat.d8u.us>⁷<https://bitbucket.org/hd1/jpassword/src/master/>⁸<https://bitbucket.org/hd1/balancehelper/src/master/>⁹<https://junit.org>¹⁰<https://twilio.com>¹¹<https://bitbucket.org/hd1/currencystack/>¹²<https://python.org/>¹³<https://currencystack.io>¹⁴<https://alexa.amazon.com>¹⁵<https://github.com/praw-dev/praw>¹⁶<https://docker.com>

- Maintain NLP stack using [SpaCy](https://spacy.io)¹⁷, and [MySQL](https://pymysql.readthedocs.io)¹⁸ in **Python**.
- Twitter [notification bot](https://twitter.com/allfisks)²¹, increasing user engagement with articles by 25%.
- rewrite our article processing stack using Textblob and Flask to return JSON, persisting using MySQL, hosted on AWS, increasing test-coverage to 100%.
- Neural network to classify sentences into fact or opinion using [RJDBC](https://www.rforge.net/RJDBC/)²², [Caret](https://topepo.github.io/caret/)²³, and crowd-sourcing using **R**.
- Fairy Nanny Niñeras – Project Manager — October 2019 ~ December, 2019 (contract)
Labour play in Yucatan, Mexico
 - Lead website redevelopment effort
- Home is Good LLC September 2018 (contract)
Proptech play in Austin, Texas
 - **Python** [Flask](http://flask.pocoo.org)²⁴ backend for scheduling tours of real-estate.
 - Identifying and diagnosing issues in the [React Native](https://reactnative.dev)²⁵ front end for the above.
 - User invites system in [Python](https://python.org)²⁶.
- Trac May, 2018 ~ November, 2018 (contract)
Accelerate the growth and maximize the success of every musician
 - Evaluate HashGraph API
 - Write backend code in **Go**
- Credfin March, 2017 ~ April, 2017 (contract)
Leading Australian credit-score company
 - Sped up report generation 99% by moving it from **Django** to a **PostgreSQL** stored procedure allowing for real-time, instead of batch, credit score generation.
- RedRoute LLC, May 2015 ~ November 2015 (contract)
Ride-sharing start up, acquired by Uber
 - Ported ride sharing startup's backend from **Golang** to **Python** with additional test coverage and reliability enhancements.
- AssistMyCase July 2013 ~ December 2013 (contract)
Automating paralegal work
 - Supervised named entity classification and co-reference calculation using [Stanford NER](https://nlp.stanford.edu/software/CRF-NER.html)²⁷ and [GATE](https://gate.ac.uk)²⁸, saving our law firm clients over \$200,000 in annual employee expenditure.
 - Managed and mentored junior developers in **Java**.
- Cydesign Labs April 2012 ~ July 2012 (contract)
ARPA-backed physics-based modeling system to quickly assess design options against requirements during the conceptual design stage
 - Implemented git on Allura using [Turbogears](https://turbogears.org)²⁹ in **Python**.
 - Devised, designed, specced, and scripted an on-boarding virtual machine image for quality assurance team.
- Game Golf (née ActiveMind Technologies) — Data Scientist — San Francisco, CA and Galway, Ireland — August 2011 ~ March 2012 (contract)
Norwest Ventures-baked makers of a wearable GPS and motion sensing Golf shot tracking System
 - Successfully isolated patterns in geospatial data from golf games using **R**, saving the company over \$64,000 in annual salaries.
- Economic Risk Management – Quantitative Analyst — Berkeley, CA — April, 2009 ~ August, 2011 (contract)
Boutique hedge fund, spun out from Morgan Stanley
 - Automated data downloading using [Perl](https://www.perl.org)³⁰.
 - Wrote **Erlang** message-passing system to trigger events – sell positions, manually updating data, generating reports, etc.
 - Designed, installed, and maintained persistence layer architecture in **Java**.
 - Migrated production system from **Google App Engine** to **AWS**, reducing downtime by 30%.
- Quantum 4D – Software Engineer — November 2007 ~ February 2008 (contract)

¹⁷<https://spacy.io>¹⁸<https://pymysql.readthedocs.io>²¹<https://twitter.com/allfisks>²²<https://www.rforge.net/RJDBC/>²³<https://topepo.github.io/caret/>²⁴<http://flask.pocoo.org>²⁵<https://reactnative.dev>²⁶<https://python.org>²⁷<https://nlp.stanford.edu/software/CRF-NER.html>²⁸<https://gate.ac.uk>²⁹<https://turbogears.org>³⁰<https://www.perl.org>

Venture-backed service modeling the world economy for the American intelligence community

- Clean up **Java** code
- add test coverage for interaction with [Apache JackRabbit](#)³³
- Intellectual Property Litigation Center, Stanford University — Stanford, CA — August 2007 ~ November 2007 (contract)
 - Devised the beginnings of the AI engine that became Lex Machina (acquired by Lexis Nexis) in **Java**.
- Willigent, Needham, MA - March 2002 ~ June 2007 (contract)
 - Homeland security contractor
 - Developed and maintained issue tracker using **Java**

Education:

- [Rensselaer Polytechnic Institute](#)³⁴ — Troy, NY
 - B.S. Computer Science, minors in psychology and economics
 - My undergraduate independent study project was accepted into [NetBSD](#)³⁵, and later, Apple, as their Bluetooth driver

³³<https://jackrabbit.apache.org>

³⁴<https://www.rpi.edu>

³⁵<https://netbsd.org>