Ross Hartshorn
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Skills

Programming: Python (Django, Scipy/Numpy/pandas/matplotlib, Jupyter), R, Javascript/HTML/CSS
Other Technical: statistical design of experiments, linear and nonlinear analysis, artificial neural networks, mainframe batch programming, business intelligence using Cognos toolset
Teamwork: Experience working as an effective team member with small startup, corporate, and university cultures, in teams managed by American, German, and Japanese leaders; able to work remotely or in an office environment
Code Examples:

https://github.com/rossdavidh
https://www.rosshartshorn.net/stuffrossthinksabout/pytorch_vs_lm/
https://www.rosshartshorn.net/stuffrossthinksabout/bakery_sales_analysis_using_R/

Experience

IQumulus (ETL Engineer, Aug-Oct 2024)
- Added to project that was behind schedule, came up to speed quickly to help it to completion
- Python code to pull weather and energy related data
- SQLAlchemy, Herbie, Pandas, SQL

Deansteel (Software Developer, Apr 2024 - May 2024 part-time)
- Updated previous work to accommodate change in their timeclock system
- Interfaced with third party technical rep to help facilitate communication
- Added functionality to enable three-way synchronization between Quickbooks, timesheet system, and the bespoke system I worked on

Boulder BioConsulting (Software Developer, Jul 2022 – May 2023 part-time)
- Python using openpyxl library to read and manipulate Excel spreadsheets of biolab data
- Set up unit tests to enable safe multi-developer work on code base in preparation for open sourcing of some parts of the code base
- Created integration testing to help prevent code regression

Inc-Query (Software Developer, Apr 2021 – Sep 2021 and Jan 2022 – Mar 2022)
- Python scientific stack (numpy, scipy, pandas, matplotlib) and Jupyter notebooks
- R for design of experiments and analysis which was not done in python
- Created simulations to validate and evaluate experimental designs worked as intended
- All code was delivered with documentation (for users and later developers) and unit tests

Erisyon (Software Developer, July 2020 - Oct 2020)
- Python scientific stack (numpy, scipy, pandas) and Jupyter notebooks
- Test suite for existing codebase related to imaging and proteomics
- Interfaced with scientist stakeholders to improve ease of use of Jupyter notebooks they used to analyze the results of experiments

Deansteel (Software Developer, February 2019 - June 2020 plus support up to present day)
- Project involved replacing two legacy systems used for job cost estimates, order entry, and production management
- Created new, django-based system to replicate all of the functionality of the legacy systems, allowing them to be phased out
- Worked with management and office workers to help determine how the existing system worked (which no one person knew all of), and how best to design the new system for them.
- Created additional functionality to integrate with Quickbooks, to support reporting, accounting, and payroll

EOS-North America (Software Developer, October - November 2018)
- Project to automate manipulation of STL files for 3-d printers was halted, with no developer available to work on it; restarted it and brought to successful completion for initial ramp
- Benchmarked speed of execution and highlighted when production ramp would begin to have problems with throughput, and documented solutions (software and hardware) so they would know what to do when they got to that point
- Helped educate technical but non-software team about best practices for managing software projects (version control, bug tracking, etc.)

T3 (Software Developer, October 2017 – May 2018)
- Worked on python3/Django code for ecommerce site for dessert restaurant client, including webstore for customers (using API for third party) and analysis of back-office admin reporting requirements for phase 2 proposal
- Worked on python3 ETL code for large gas station chain client, including geographic data validation and transformation
- Worked on python3/Django code for later phases of ecommerce site for hamburger restaurant client, primarily on webstore for customers (using third party API)
- Became more familiar with Docker

Lab7 Systems (Software Developer, March 2017 – May 2017)
- Third contract with same employer
- Worked on application for management of gene sequencing labs IT infrastructure, including back office/admin functionality and front end display for lab techs
- Python code related to use of tornado asynchronous web framework
- Javascript (Backbone, jQuery, and d3) on front end

Q2eBanking (Software Developer, January 2017 - March 2017)
- Mix of python, javascript, SQL, and integration
- Helped contribute python expertise to a team of diverse skillsets

Real Estate Business School (Software Developer, September 2016- November 2016)
- Only developer on the team (no test environment, no deployment infrastructure, etc.)
- Helped to troubleshoot and correct an immediate and urgent problem (in production) with a website that used facial recognition (based on OpenCV and OpenBR) for login and identity verification
- Traced through existing python and javascript code, which utilized the webapp2 web framework and peewee ORM, to determine how best to provide quick relief
- Advised the ownership on how to transition to a more maintainable/sustainable tech stack given their lack of permanent software developers

Compass Learning (Software Developer, January 2016 - May 2016 (half-time))
- Second contract with same customer
- Wrote ETL code in python for importing from legacy system to new product
- Wrote audit and update code in python to check new inputs to system, and correct any problems found (where an automatic solution was possible) or write to an error file (where not)

Andrew Harper (Software Developer, October 2015 - January 2016 (full-time) – May 2016 (half-time))
- Wrote python/django code to interface with Stripe and Mandrill external systems
- Wrote client-side code using Backbone.js, for internal customer-facing web pages relating to auction system
- Wrote python ETL code to take data on subscriptions, purchases, and addresses from a legacy, external system and imported them to internal system (including validity and integrity checks)

Compass Learning (Software Developer, January 2015 - July 2015)
- Wrote ETL (extract-transform-load) system from scratch, in Python
- Exported legacy data as spreadsheets for markup by subject matter experts, then re-imported and validated data, and parsed related JSON and XML
- Used REST-based API to load data to new system
- Documentation and training for permanent employee who took over the code when contract ended

Lab7 Systems (Software Engineer, July 2014 - November 2014)
- Second contract with same employer
- Back-end programming used Python (Tornado web framework)
- Front-end programming used Javascript (Backbone and jQuery)
- Implemented or expanded several new sections of their LIMS (Laboratory Information Management System)

Pearson North America (Software Engineer, August 2013 – May 2014)
- Programmed in Javascript (Backbone.js client-side MVC)
- Worked on integrating system with TinyMCE, MathML/MathJax
- Flexibly worked with both permanent Pearson developers (who had previous technical decisions that had to be respected) and new contractors (who had many questions while onboarding and looked to me as a fellow new developer for assistance)

Lab7 Systems (Software Engineer, Feb 2013 - June 2013)
- Programmed in Python (Tornado web framework, SQLAlchemy ORM) for an application aimed at gene sequencing customers
- Javascript programming of interface for User Accounts Management module (mostly using jQuery and jQueryUI)
- Assisted in debugging of D3/Backbone based Javascript in crunch time prior to (successful) product demo at a conference

Life Technologies (Software Engineer, April 2012 - Feb 2013)
- Programmed in Python on a next-generation gene sequencer platform
- Incorporated numpy/scipy/matplotlib libraries and pre-existing in-house scientific code (written by a departed programmer) as well as my own code, and moved project successfully to completion
- Also worked with personnel in gene-sequencing Core to improve an in-house LIMS based on Python/Django/jQuery

MapMyFitness (Backend Developer, Sep - Dec 2011)
- Programmed in Python on a Django-based application
- Worked in Selenium
- Created sftp-based process to update from 3rd party via a djcelery chron job
- Flexibly worked in javascript/jquery, python, and SQL to achieve objectives

University of Texas (Senior Systems Analyst, 2004-2010)
- Analyst in Accounting IT with responsibility for inventory and scholarship systems, including programming, meetings with users, and project management for rollout of new systems
- Created web pages for high-security project to store tax id information separate from other files, including tracking of usage and automatic shutdown if a scripting attack was detected
- Taught staff courses on XHTML/CSS, Javascript, jQuery
- Coordinator for six-month program to train new analysts in web and mainframe programming
- Created first Python-based web application in Education and Professional Development department (including MySQL and Apache setup)
- One year working in Business Intelligence (Cognos tool suite)

Manufacturing Engineer for Advanced Micro Devices (1989-1996 and 1999-2004)
- Responsible for trouble-shooting process problems independently
- Successfully worked with employees of very different technical backgrounds and job duties, often translating the stated needs into technical requirements (either for myself or others)
- Extensive experience using statistical analysis tools for both process monitoring and new process development

Master's Degree in Electrical Engineering, Southern Illinois University(1997-1998)
- GPA of 4.0 (out of 4)
- Electrical Engineering, specializing in software simulations of neural networks

Bachelor's Degree in Electrical Engineering, University of Illinois (1985-1989)
- GPA of 4.0 (out of 5)
- Electrical Engineering, specializing in semiconductor device physics