Ilaan Shtaygrud

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Education

Texas A&M University

Master of Science in Geophysics, Certificate in Petroleum Geosciences

Polytechnic Institute of New York University

Bachelor of Science in Physics, Minor in Computer Science, Minor in Nuclear Science and Engineering, Cum Laude

Skills

- Languages: C#, C++, Python, Matlab, Javascript
- Tech: Tensorflow, Redis, MongoDB, CefSharp, XNA, Docker, Numpy, Scipy, Matplotlib, React/Redux, SeisLab, MessagePack, Farseer
- Concepts: machine learning, asynchronous programming, distributed computing, concurrency, OOP and encapsulation, inheritance, composition, dependency injection, serialization, containerization/virtualization

Experience

Fossilbot – Founder March 2017 – Present

- Designed and implemented Tensorflow based deep learning software for automatic classification of nanofossils based on Inception architecture
- Architected optimized, general purpose blob detection algorithm based on simple image processing/filtering techniques
- Wrote and presented business proposal, pitching to various investors including Petrostrat, Shell, and Chevron
- Built and maintained 9 GPU mining and neural net training cluster

BHP Billiton Petroleum – Associate Geophysicist Sept 2014-March 2017

- Wrote software for self-directed 2D seismic modeling project, using Seismic Unix finite difference engine and ProMAX for processing/migration
- Consistently sought opportunities for and completed multiple coding projects to accelerate individual and team work
- Interpreted 3D seismic and integrated well data to analyze connectivity of wells at Shenzi field during GOM Production Unit rotation
- Wrote GOCAD plugin in C++ to assist in basin modeling
- Completed eight Nautilus and internal courses, including N376 Seismic Data Processing, N138 Structural Interpretation, and N155 Intro to Clastic Depositional Systems, and N083 Petrophysics Basic Principles

Freecon Galactic – Full Stack Developer January 2012 - Present

- Collaboratively built distributed, real time, concurrent, persistent client-server application
- Carefully architected code structure and MongoDB database wrapper for robustness during asynchronous, frequently concurrent operation
- Developed wrapper for Redis to enable efficient data/signal marshalling/sharing among server instances
- Adapted CefSharp for XNA rendering to enable convenient development of web based client and admin UI
- Simplified client login and data transmission with wrapped Nancy Web Framework
- Fortified client and server against anticipated exploits

2013 AAPG Imperial Barrel Award Competition – First Place (Gulf Coast Region) Spring 2013

- Conducted full prospectivity analysis of a region in the Danish Central Graben (North Sea) with limited data
- Rapidly developed 3D basin modeling application based on Time Temperature Integral model (Issler, 1984)
- Condensed 8 weeks of work into clear, concise 25 minute petroleum system and risk oriented executive-targeted presentation
- Integrated a range of sciences, including seismic analysis, petrophysics, and paleo-geology as a member of a 4 person team

Texas A&M University – Laboratory Teaching Assistant Fall 2012

- Delivered clear, concise lectures, displaying mastery of general geology after just one semester of study
- Supervised and directed almost 60 students during lab exercises, providing additional stimulation with custom lab related questions
- Maintained simultaneously friendly and professional relationship with students while ensuring both interest in and understanding of coursework

Brookhaven National Laboratory – Research Intern June 2011 – August 2011

- Simulated Texas A&M TRIGA reactor transient rod ejection with PARCS software
- Collaborated with working researchers and engineers while developing accurate reactor model for computational simulation
- Communicated with PARCS developers, identifying, describing, and assisting in the resolution of various software errors
- Simultaneously completed numerous side projects, including development of Matlab code for conversion of previous PARCS transient simulation data into easily interpretable video, and a simplified Markov type analysis of the Fukushima reactor status and an associated sensitivity analysis

Polytechnic Institute of NYU – President, Physics Student Club September 2010 – May 2011

- Actively participated in and oversaw club initiation, where initiatives in previous years have failed
- Delegated and supervised numerous committees tasked with organizing and executing various projects and trips
- Directly contributed to a number of projects with minimal to no faculty supervision, including construction of a low temperature atmospheric plasma generator