Anthony Erlinger

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http://github.com/aerlinger

Summary

I seek purpose and fulfillment through devotion to the craft of software engineering. Throughout my career I've faced a diverse array of problems in both commercial and scientific applications and have successfully led teams in delivering a venture-backed product from concept to launch.

My greatest accomplishments have arisen from circumstances where I have been intellectually engaged in the pursuit of solving a problem within a collaborative environment. Please feel free to reach out to me, or to visit my website (http://aerlinger.com) for more specific examples of work I've done.

Skills

Applied experience with Rails/Ruby, JS/Node/AJAX, Python, SQL, HTML/CSS, Unix, AWS, Chef, HTML/CSS, Mobile (both web and Android), R, Matlab, Julia. I have also made open source contributions within the Rails and Julia communities.

Experience

Handybook

02 / 2014 - Present

handybook.com

Director of Data Science

Led development and deployment of company's internal toolset for data analysis. Also implemented reporting tools to provide business intelligence within cross-functional teams in a rapidly growing company. Designed and implemented algorithms for effective job dispatch and scheduling for managing supply and demand between a two-sided marketplace. Communicated high level information regarding the state of the company with fellow managers in other domains of the company. This included engineering, operations, customer service, marketing, and product development. Also conducted regular interviews with candidates for various roles within the company and contributed to decisions regarding the hiring of key candidates.

Technologies used include: R, Ruby on Rails, MySQL and MongoDB, Redis/Sidekiq, Tableau, Amazon Web Services, HTML/CSS/JS for custom dashboard development

Just Sing It

02 / 2013 - 2 / 2014

justsingit.com

Chief Technology Officer

Led team of 5 Agile engineers from pre-concept through product launch. Also drove key decisions regarding the development of mobile, web, and backend software architecture. This included the design and implementation of the core architecture patterns, establishing the team's development philosophies, and planning the team's sprint cycles for rapid development. I Was also responsible for developing, testing, optimizing, and deploying a cross-platform REST API in Rails for our mobile and web based platforms. These responsibilities included the configuration, deployment, security, and monitoring of a dynamically scalable, multi-server, multi-paradigm back end architecture which was hosted on Amazon Web Services.

Technologies used include the iOS SDK, the Android SDK, Ruby/Rails (including custom tools and gems written in Ruby, MySQL/Memcached (Dalli), Redis/Sidekiq cluster, Amazon Web Services, Facebook SDK, HTML/CSS/JS website and browser-based API client.

Just Sing It is backed by top US and international investors, including Lerer Ventures, Tribeca Venture Partners, M8Capital, Eniac Ventures and DFR Asia.

Physics Academy

04 / 2012 - Present

physicsacademy.com

Founder & Creator

Physics Academy's mission is to make learning physics fun and accessible to anyone in the world by developing new technologies for interactive education. We accomplish our mission by fostering a community oriented around visual demonstrations, puzzles and competitions while providing educators a rich online medium to deliver lessons and assessments.

The Physics Academy core site is built in Rails. Live simulations are built in Javascript with support by Node.js and Mocha for development.

Homespree

01 / 2013 - 11 / 2013

myhomespree.com
Co-founder, CTO

Leveraging technology to improve the stressful and inefficient home improvement process. Homespree is the smart way to get home improvement estimates. The app allows you to get estimates from multiple contractors right on your smartphone.

Columbia University
09 / 2010 - 05 / 2013
Ph.D. Candidate (former)

Developing novel devices to analyze the kinetics and conductive properties of bio-molecular systems such as DNA and proteins at small time scales. Additional responsibilities include managing and maintaining lab servers, software licenses, and Linux client machines.

Columbia University
09 / 2010 - 05 / 2013
Graduate Research Assistant

UCLA
09 / 2007 - 07 / 2010
Research Associate

Developed high-throughput image processing algorithms for cell type recognition from microscope images.

UC Berkeley
06 / 2008 - 08 / 2008
EECS Research Intern

Applied computational electromagnetic simulations to optimize the design of nanometer-scale grating antenna.

Education

Columbia University in the City of New York
2010 - 2011
Master of Science (M.Sc.) , Electrical Engineering

UCLA
2007 - 2010
Bachelor of Science (B.S.) , Electrical Engineering

Languages

- Ruby
- Java
- C
- Shell
- Assembly (6502)
- Julia
- Javascript
- Actionscript
- C++
- MATLAB
- PHP
- Python
- CoffeeScript
- Objective C
- R
- CUDA

Patents

Compact Automated Semen Analysis Platform using Lens-Free On-Chip Microscopy
12 / 2011

US · Inventors: Anthony Erlinger
http://appft1.uspto.gov/netacgi/nph-Parser?Sect1=PTO1&Sect2=HITOFF&d=PG01&p=1&u=/netahtml/PTO/srchnum.html&r=1&f=G&l=50&s1=20120148141.PGNR.

A compact and light-weight lens-free platform to conduct automated semen analysis is disclosed. The device employs holographic on-chip imaging and does not require any lenses, lasers or other bulky optical components to achieve phase and amplitude imaging of sperm a relatively large field-of-view with an effective numerical aperture of approximately 0.2. A series of digital image frames is obtained of the sample. Digital subtraction of the consecutive lens-free frames, followed by processing of the reconstructed phase images, enables automated quantification of the count, the speed and the dynamic trajectories of motile sperm, while summation of the same frames permits counting of immotile sperm.

Publications

Lensfree Holographic Imaging for On-chip Cytometry and Diagnostics
12 / 2008

Lab on a chip · Authors: Anthony Erlinger, Sungkyu Seo, Ting-Wei (Justin) Su, Derek Tseng
http://pubs.rsc.org/en/Content/ArticleLanding/2009/LC/b813943a

We experimentally illustrate a lensfree holographic imaging platform to perform on-chip cytometry. By controlling the spatial coherence of the illumination source, we record a 2D holographic diffraction pattern of each cell or micro-particle on a chip using a high resolution

sensor array that has approximately 2 microm pixel size.

High-throughput lensfree imaging and characterization of a heterogeneous cell solution on a chip

09 / 2008

Biotechnology and Bioengineering · *Authors: Anthony Erlinger, Sungkyu Seo, Ting-Wei (Justin) Su*
http://www.ncbi.nlm.nih.gov/pubmed/18853435

A high-throughput on-chip imaging platform that can rapidly monitor and characterize various cell types within a heterogeneous solution over a depth-of-field of approximately 4 mm and a field-of-view of approximately 10 cm(2) is introduced. This powerful system can rapidly image/monitor multiple layers of cells, within a volume of approximately 4 mL all in parallel without the need for any lenses, microscope-objectives or any mechanical scanning.

Multi-Color LUCAS: Lensfree Holographic Imaging for On-Chip Cytometry and Diagnostics

2009

Cellular and Molecular Bioengineering · *Authors: Anthony Erlinger, Sungkyu Seo, Ting-wei Su*
http://link.springer.com/article/10.1007%2Fs12195-008-0018-6?LI=true

We illustrate a high-throughput on-chip imaging platform that can rapidly monitor greater than 50,000 cells within a homogenous solution over a field-of-view (FOV) of several square centimeters. We refer to this technique as Lensfree Ultra-wide-field Cell monitoring Array platform based on Shadow imaging (LUCAS).