

# KEVIN J. LYNAGH

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## PROFESSIONAL EXPERIENCE

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- Principal**, Keming Labs spring 2011–present  
Founded a technical design studio, specializing in web-based statistical interfaces and data visualization  
Past clients include a design studio, biotech company, and multiple web startups; see <http://keminglabs.com>
- R&D Engineer**, Qmedtrix Systems fall 2009–spring 2011  
Designed and built in-house data visualization and machine learning algorithms for detecting medical bill fraud  
Hired after delivering a statistical classification system to the company as a contractor
- Book Designer**, Perfectly Scientific Press fall 2009  
Designed a reusable book template and several covers for a specialty scientific publishing company

## EDUCATION

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- Reed College**, Portland, Oregon fall 2006–spring 2010  
Physics major, class of 2010  
Senior thesis on computational geometry and machine learning in structural bioinformatics

## PERSONAL EXPERIENCE

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- Open Source** summer 2008–present  
Maintain several libraries on Github under the username lynaghk; notable projects include:  
**Vagrant-EC2**: Chef configuration management for local virtual machines and on Amazon's EC2  
**Cljs-d3**: use the D3 JavaScript data-driven DOM manipulation library from ClojureScript  
**Rliblinear**, **clj-liblinear**: R and Clojure bindings to the LIBLINEAR support vector machine classification library  
**YALLI**: port of a Matlab library for solving *compressed sensing* problems:  $\min \|x\|_1$  with  $\|Ax - b\|_2^2 < \delta$ .
- Technical typesetting & statistical graphics** always & forever  
Frightening knowledge of  $\TeX$  &  $\LaTeX$  for typesetting mathematics, Adobe Illustrator for schematics  
Interactive web-based visualizations built with Clojure, R, Ruby, SQL, CoffeeScript (JavaScript)

## RESEARCH EXPERIENCE

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- Geometry & protein evolution**, Boston University Bioinformatics Graduate Program summer 2009  
Worked with Dr. BRANDON XIA and PhD candidate ERIC FRANZOSA on the relationship of protein structure and residue conservation
- Organic synthesis**, Reed College Chemistry Department fall 2006–spring 2007  
Worked with Dr. PAT MCDUGAL to synthesize compounds containing intermolecular hydrogen bonds; investigated the  $S_N2$  addition of cyanide to a tropine mesylate to form the carboxylic acid derivative, optimized nucleophilic addition and Pd-catalyzed aromatization reactions leading to a novel compound class

## PUBLICATIONS

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- Crandall, R., Lynagh, K.J., Mehoke, T., and Pepper, N. (2011, in press). Automated classification of medical-billing data, *Computational Intelligence in Software Engineering Workshop*.
- Pepper, N., Strong, H., and Lynagh, K.J. (2010). Qyz: A Platform for Visual Analysis of Error, Abuse, and Fraud in Medical Bills, *IEEE VisWeek Workshop on Visual Analytics in Health Care*.
- Franzosa, E.A., Lynagh, K.J., and Xia, Y. (2009). Structural Correlates of Protein Melting Temperature, *Proceedings of 4th ESCEC Symposium*