ZACH MORGAN

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Objective

- I am seeking open-ended opportunities with potential to further my skillset & experience in unanticipated directions.

Education

- B.S. in Computer Science, December 2009

  The University of North Carolina at Greensboro

Skills

- **Operating Systems:** Linux (Ubuntu, Debian), Windows 2000/XP/7
- **Computer Languages:**
  - Proficient in Perl, Javascript, Regular expressions, SQL, C, C++, HTML, Java
  - Familiar with Ruby, LaTeX, Java, Bash, Python
- **Tools and Systems:**
  - Proficient in Mojolicious, Catalyst, DBIx::Class, Moose, SQLite, Git, Redis, GTK+
  - Familiar with Vim, MySQL, Lighttpd, Android, PDL
- **Other Skills:** Machine learning, Text processing, APIs, OpenID, OAuth, Excellent car driver

Projects

- **Basilisk Go Server**—Senior Project at UNCG was to build a a successful correspondence board game server in Perl. It demonstrates proficiency with object-relational mapping (ORM), web templating with forms and javascript, version control, regular expressions.

- **Collision::2D**—Collision::2D is a float-precision continuous collision detection system for some geometric shapes in 2D; it detects collisions between points, circles, and rects of any size and velocity. Originally implemented on Moose, it was ported to an XS backend.

- **AI::Nerl**— AI::Nerl is a perceptron-type neural network library. AI::Nerl uses PDL, the Perl Data Language for fast linear operations, including training using backpropagation. AI::Nerl has been used to build a digit classifier and a general image classifier.

- **Cinderblock Go Server**— Another Go server, fixes many faults of Cinderblock. Uses Redis for storage and websockets to enable either correspondence or real-time play. Games::Go::Cinderblock spawned as a variant rulemap implementation. Scrollable board rendered with HTML5 canvas. POV-Ray was also used for some reason.

- **Cataclysm: Dark Days Ahead**— An established post-apocalyptic sandboc-style roguelike game. I solved almost all of the instability problems and rewrote the vehicle collision system to enable more "realistic" vehicle-vehicle collisions.