Michael Aaron Fogleman
michaelfogleman.com
404 Gravel Brook Court, Cary, NC 27519
fogleman@gmail.com • 919-619-7120

SUMMARY

Prolific developer, day and night. Interests include computer graphics, data analysis, visualization and algorithms.

EDUCATION

North Carolina State University
BS Computer Science, May 2005
Cooperative Education Program, University Scholars Program, Magna Cum Laude

LANGUAGES

Python, Go, C, SQL, JavaScript

PROJECTS

I am passionate about programming and spend a lot of time on side projects. These links will tell you more than any résumé ever could.

- michaelfogleman.com/projects/
- github.com/fogleman

EXPERIENCE

Senior Software Engineer at **TransLōc** (November 2013 - Present)

- Developed the entire backend for an on-demand transit system.
- Developed an algorithm for dynamically scheduling and routing vehicles.
- Developed an OSM router to estimate driving times between any two points.
- Developed an algorithm to match passenger and vehicle locations to determine when mobile users are using public transit.
- Developed the backend for a transit planning product that shows how passengers use transit and move around within a city.
- Analyzed automatic passenger counting (APC) data to derive several metrics useful to transit agencies including: total ridership, cost per passenger, most used stops, etc.
- Analyzed huge database of passenger geolocation data to discover patterns in transit system usage.

Principal Software Engineer at **Advanced Liquid Logic** (August 2008 - November 2013)

- Developed the Assay Development Environment (ADE), an application that...
  - Allowed users to create programs for digital micro-fluidic devices by building drag-and-drop workflows instead of writing code.
  - Included sophisticated algorithms for compiling diagrams into runnable code, synchronizing droplet operations, compressing programs, visualizing simulations, etc.
- Developed Spot Logic, an application that...
  - Was the software portion of a product used to test newborns for several genetic diseases.
  - Was deployed in Illinois and Missouri for newborn screening.

- Developed "The Fridge", a web application that...
  - Recorded metadata and results for experiments in a centralized database.
  - Included a sophisticated web interface for viewing and managing data.
- Developed a touch screen user interface for a DNA sample preparation instrument.
- Developed an application that used an XYZ stage and a USB camera to optically validate cartridges manufactured in-house.
- Developed a web application with a desktop client for performing QC tests on disposable cartridges and recording the results.

Software Architect and Project Manager at **TopCoder** (July 2005 - May 2008)
- Developed the grammar for a domain-specific language and designed the software to parse, validate and interpret these scripts in both live and historical stock market contexts.
- Designed a virtual trade engine to simulate order executions by processing stock market feeds and a real-market trade engine to forward orders to live exchanges.
- Developed several utility applications including:
  - Software to monitor systems and email administrators in the event of failures.
  - Software to generate statistical and administrative reports and charts.
- Designed a web-based survey application.
- Developed an internal tool for tracking upcoming TopCoder competitions.

Programmer (Co-op) at **IBM** (January 2004 – June 2005)
- Developed a prototype software framework for industrial automation solutions.
- Built a simulated oil pipeline to demonstrate the capabilities of our platform.
- Received an individual evaluation of "Outstanding" (the highest possible) after completing the Extreme Blue internship program.
- Developed a web-based app for monitoring traffic on a pub-sub messaging framework.
- Developed and tested an AOL "channel adapter" using the TOC protocol to enable the INS product to send notifications to instant messenger users.
- Developed a "Dock Door Receiving" demo to showcase IBM's RFID platform.

Programmer (Co-op) at **REM Services** (January 2002 – August 2003)
- Developed Pocket PC software that mimicked the DeltaV Operator interface.
- Developed COM-based software to retrieve data from the DeltaV process control system.
- Developed Pocket PC software to assist execution of hardware test procedures.
- Developed software to automate generation of documentation based on existing DeltaV configuration files.
- Developed a web page to display real-time weather data collected on-site.
- Developed a web page to showcase in-house software and demos.