

EXPERIENCE

NGP VAN, Inc Somerville, MA, *Software Engineering Team Lead*

06/2016 –

- ◆ Back at NGP VAN, advancing the leading edge of progressive civic tech for the 2016 election cycle and beyond
- ◆ Currently managing 6 engineers, responsible for iOS and Android native mobile apps along with associated data and servers

Center for International Development, Harvard Cambridge, MA, *Product Architect*

05/2015 – 04/2016

- ◆ My team of software engineers, user experience designers, and visualization experts in an environment that mixed academic research, public facing tools, and high level government consulting
- ◆ When I joined CID, I took over three software and data projects that were almost a year behind schedule and slipping fast. After learning what contractual deadlines and commitments were already in place, I worked with the team to focus and protect the most important aspects for creating a viable product. Between May and October, my team got the projects back on track, eventually launching data driven, visualization intensive, English/Spanish internationalized web apps for use by researchers and policymakers in Mexico and Colombia, along with launching smaller experimental visualizations along the way.
 - ◆ Oversaw fast-paced greenfield development for complejidad.datos.gob.mx and datlascolombia.com
 - ◆ Worked with the team on architectural planning and code review across multiple codebases and systems using python, EmberJS, D3.js, Sass, AWS
- ◆ While the team was already using Git for most projects, I wrote up a standard workflow so that all developers could use the same branching, naming, and merging strategies
- ◆ Established the sprints, planning meetings, retrospectives, story point estimating, and the first estimates of project completion based on team velocity
- ◆ Acted as an Agile coach, setting up process and culture around sprint planning, retrospectives, work tracking and dashboards with JIRA and Github integration.
- ◆ Moved work culture from individual tasks to cohesive team planning
- ◆ Created single roadmap and cohesive planning for all software projects, whereas before the same team was working on multiple projects without consideration for overlapping capacity or competing deadlines
- ◆ Gathered requirements and performed usability testing with lead investigator, researchers, potential users, and project sponsors from Mexico, Colombia and Peru

NGP VAN, Inc Somerville, MA, *Software Engineering Team Lead*

11/2011 – 05/2015

- ◆ Technical lead of a geographically dispersed team of software engineers, UI developers, and QA/automated test engineers in a mostly Agile Scrum environment.
- ◆ Promoted twice, 2nd time resulting in the team lead position
- ◆ Planned, designed, coded and code reviewed work ranging from yearlong projects to emergency production bugs
- ◆ Most of my work was in C# or VB, asp.net, .net Web API, AngularJS, SQL Server, RabbitMQ
- ◆ Played a major role in development of a next generation bulk email system. Along the way developed standards for cloud-based RabbitMQ and Microsoft Azure to host web apps and workers that were decoupled from the main codebase
- ◆ Extensive work using refactoring, clean API layers, and good old code-deletion to improve a legacy codebase
- ◆ Ultimately responsible for making sure we produced fast iterations of product features and technical improvements while maintaining a well crafted codebase with pragmatic architecture choices.
- ◆ Negotiating with our product team, client services, and other stakeholders, I worked to determine minimum viable products that satisfied our most important user stories. Sometimes this meant finding a way for clients to satisfy their needs using existing features, sometimes it meant building something small that solved the most important 80% of user stories, and sometimes it meant breaking a necessarily large project into small chunks that we could iteratively deliver.
- ◆ Mentored developers and worked on process improvements to balance short term business needs with peer code review, refactoring and prototyping opportunities, and professional development
- ◆ Protected the momentum of my team by planning around blockages, rejecting scope creep, appropriately

- prioritizing production incidents, and providing a line of defense between the team and unexpected challenges
- Provided architectural direction and rapid prototypes for long term projects
- Designed and implemented the first D3 visualizations in Votebuilder, our main product. A Sankey diagram for voter registration progress, it was adapted from one of my internal hackathon projects.
- Instructed on Git workflows as we transitioned from TFS, ensuring kosher source control history and solving problems for my team and others
- Worked with my team to determine individual growth goals and build a process for addressing these goals every week, rather than waiting for reviews once a year
- Analyzed usage of existing product features to help inform and prioritize new feature work
- Analyzed usage patterns and error logs to predict when our upstream vendors and partners would have capacity issues during peak election times.
- Recruited and conducted dozens of interviews for software engineers, interns, automated testing engineers

Sino Investments, Detroit, MI, *Co-Founder, Technical Director*

10/2010 - 9/2011

- Created financial model supporting \$1.2 million microbrewery expansion: modeled expansion effects including changes to labor allocation, equipment depreciation, distribution of sales across 120 beer varieties, material costs and financing costs, leading to comprehensive pro forma balance sheet, income statement, and statement of cash flows
- Interfaced with clients to translate business and industry knowledge into financial model design specifications
- Responsible for internal technical operations as well as technical problem-solving for clients: internal and external financial projections, crm system, time tracking, project budgeting, website design and hosting, email, file sharing
- Signed memorandum of understanding with 4.7 Billion RMB development project in Guangzhou, China

IBM OpenPages (then OpenPages, Inc.), Waltham, MA, *Software Engineering*

7/2010 - 12/2010

- Architected and coded a java desktop app to aid multinational companies in global IT risk management planning
- Helped make OpenPages the first in their industry to provide a quick and powerful way to build a set of compliance guidelines based on Unified Compliance Framework data. The UCF data consisted of 25k+ pieces of regulation and industry guidance, and customers used the tool to find pieces relevant their business, de-dupe similar articles, and easily import the final results into
- Applied streaming XML parsing, multi-threading, and indexing to maximize UI responsiveness while managing memory use
- Used Apache POI to export results to .xls for a matrix view of the selected data, and to OpenPages proprietary excel format for important complex object heirarchies
- Created and performed testing plans for OpenPages JSP modules, created testing plan and testing tools for IT risk application

Econometric Analysis of Chinese Character Learning on Skritter.com (*Senior Research Project*) 2/2010 - 6/2010

- Modeled the probability that a learner will forget a character at a certain time after review
- Analyzed over 15 million data points from 3,000+ learners, using 30+ key learner characteristic as variables
- Designed and coded a web dashboard (php, jQuery, JavaScript, HTML, CSS), database (MySQL), export scripts (PHP, SQL), and econometric software scripting (STATA) to support research and analysis
- Identified inconsistency in core product algorithm results, showing opportunity for enhanced learner productivity

Belltower Books, Washington, DC, *Campus Associate*

4/2009 – 12/2009

- Created a tool to collect and aggregate data from course syllabi, class schedules, online prices, and final exam dates
- Combined and analyzed data to determine the most productive buying opportunities based on book price, class size, student level, and exam date; applied analysis to personally achieve top commission tier by volume

Culture Gateway, Beijing, China, *Interim Managing Director*

7/2007 - 9/2007

- Ran marketing drive that secured favorable contracts for 12 teachers at the state-owned firm FESCO, and at China's largest private school, New Oriental
- Resolved employment, housing, arrival, visa, and police registration difficulties for inaugural participants

- ♦ Led a team of Chinese professionals to overhaul product design and marketing for a distance learning system
- ♦ Advised the CEO of My Big School on design and UX principles for Western audiences

EDUCATION

George Washington University, BA with double major: *Computer Science, Economics* Cumulative GPA: 3.28 5/2010

Awarded *School of Engineering and Applied Science* merit-based full tuition scholarship, total value \$144,000+

SKILLS

Languages and Markup: C#, SQL, Python, Javascript

Web Technology: RESTful API design, D3.js AngularJs, JSON, AWS and MS Azure, .Net Web API and Web Forms, not afraid of SOAP APIs though I prefer not to go there

Software: Pretty legit Git user, Better than I care to admit with MS Excel, Ok but not amazing in: Bash, *nix

Collaboration & Planning Tools: Jira & API, Github & API, Once upon a time I did lots of MSBuild and Team Foundation Server customization

Analytic: Some rusty econometrics, Learning more Machine Learning

Languages: Mandarin Chinese – intermediate written and spoken proficiency