

# CHARLES AGNELLO

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## SUMMARY

Software Engineer with proven development experience on Java based RESTful webservices powering public facing applications in a highly distributed system with high availability. Well versed in all phases of the software development lifecycle and knowledgeable about algorithms and data structures.

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## PROFESSIONAL EXPERIENCE

### **Ticketmaster | 1/2013 - 2/2017 | Software Engineer**

- Created a new Springboot microservice (to replace a legacy system) that is part of the Ticketmaster Open Platform initiative
- Triaged incoming issues to gather more data, to learn more about the underlying backend systems, and to gauge priority of the issue
- Monitored onsales for key events to ensure that all systems were operating smoothly and to act quickly when/if any problems occurred
- Gathered timing data for methods using Aspect Oriented Programming (AOP) point cuts using AspectJ
- Created reports generated by Splunk for the API traffic showing aggregate data, errors broken down by endpoint and channel, and other statistics
- Owned the bot blocking code within the Ticketmaster API
- Improved bot blocking by adding several strategies including 3 counter based blocking, 2 metadata based blocking via MaxMind's GeoIP data, and only applying the strategies to a few high impact endpoints
- Decreased search time over a particular set of data from an average of 2 seconds to an average of 7 ms
- Maintained an annual 100% uptime goal and maintained high availability of the API through performance improvements
- Created a script to automatically block CIDRs based on country of origin using the Ticketmaster API. The script kept track of WHOIS data for previously checked IP addresses and the corresponding CIDR, dynamically updated a local in-memory list of the current blocked CIDRs to prevent duplicating a blocked CIDR, and updated the API's list of blocked CIDRs
- Increased unit test coverage from 22% to over 43% (as part of a team goal) within 1 years time
- Added monitoring dashboards in Metrilyx (Ticketmaster open source project) which is a front end for OpenTSDB data
- Added two additional backend webservices that are consumed by the Ticketmaster API
- Trained and mentored junior team members in software development best practices

### **CityGrid Media | 01/2010 - 12/2012 | Software Engineer**

- Successfully reworked the build pipeline to use Continuous Integration and integration tests
  - Added the ability to run Jmeter performance tests through Hudson with custom Perl scripts to analyze the data
  - Improved the performance of the API response time over 90% by using MongoDB to serve data
  - Integrated another web service into the Content API webservice
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## EDUCATION

Rose-Hulman Institute of Technology, Terre Haute, IN | Bachelor of Science in Computer Engineering