Oliver Chang

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PROFESSIONAL EXPERIENCE

Sendbird, Inc., San Mateo, California

- Senior Backend Software Engineer — Jun 2018 – Sep 2023
  - Led migration of monolithic Python 2 backend service to Python 3 with zero downtime and no customer side effects
  - Redesigned data retention architecture to use a backpressure-based gevent pool using multiple query strategies depending on customer size, leading to a 10% reduction in DB costs
  - Collaborated with Reddit to design and implement generalizable moderation features based on rules such as sliding window rate limits, a custom regular expression engine, and anti-flood detectors
  - Guided summer interns to complete projects for production features such as full-text search and moderation rule engine

Rice University, Computer Science Department

- Graduate PhD Researcher — Aug 2016 – Mar 2018
  - Research focus on data-driven deep learning techniques for program synthesis
  - Served as teaching assistant for graduate Web Development course (covering Git, HTML, CSS, Node, React)

Baker Institute, McNair Center for Entrepreneurship & Innovation

- Graduate Student Assistant — May 2017 – Jan 2018
  - Created a parallel Extract, Transform, Load (ETL) system in Java to parse XML data from the US Patent and Trademark Office XML source files to create corpus for innovation research paper
  - Implemented a geoprocessing approach to measuring innovation via startup agglomeration for a published whitepaper
  - Mentored undergraduates in the ethical use of data and software engineering best practices

REConsole, Inc., Fort Lauderdale, Florida

- Software Engineering Intern — Jan 2016 – May 2016
  - Automated a day's worth of manual engineering work by automating the data extract, transform, load (ETL) pipeline into a reproducible proess built with Kubernetes, Apache Spark, ElasticSearch, and PostGIS
  - Worked with Lead UX Designer to systematically reduce geographical parsing errors or to find alternative methods of representing unreliable real estate transaction data

Florida International University, Electrical & Computer Engineering Department

- NSF REU Student, Mobile, Pervasive, and Autonomous Technologies Lab — Oct 2015 – May 2016
  - Synthesized WiFi metadata, GPS location data, and qualitative user input in an Android app to perform indoor Simultaneous Localization and Mapping (SLAM) data collection
  - Used advanced techniques, such as IEEE 802.11 Probe Request collection, to match industry-standard indoor SLAM
  - Won 2nd Place in 2015 University of Miami GIS Day with a use case, "GPS & WiFi Choke Point Analysis"

University of Illinois, Urbana-Champaign, Department of Computer Science

- NSF REU Student, Scientific Computing Group, Parallel Computing Institute — Jun 2015 – Aug 2015
  - Received training in parallel computing frameworks OpenMP, CUDA, and MPI from industry leaders in the field
  - Optimized legacy Fortran77 MPI code using hardware-software features to attain an up to 20% speedup
  - Co-presented poster "Analyzing the Scalability of Nek5000" to the University of Illinois parallel community

National Aeronautics and Space Administration, Jet Propulsion Laboratory

- Summer Intern, Physical Oceanography Distributed Active Archive Center — Jun 2014 – Aug 2014
  - Created a Python webservice for validating satellite data from third-party vendors using industry-standard specifications that were previously too hard to comply with or to understand; the service is still the industry standard
  - Poster featuring the design and merit of the work, "Improving Compliance for Earth Science Data Records," presented at the 2014 Meeting of the American Geophysical Union

Senzari, Inc., Miami, Florida

- Software Engineering Intern — Mar 2013 – Apr 2014
  - Led visualization team for a business intelligence dashboard (Django, Google Charts & CoffeeScript)
  - Built webapp in HTML5/jQuery Mobile to explore, listen, and visualize music network graph queries

EDUCATION

University of Miami, Coral Gables, Florida, USA

- B.S. in Computer Science & Geography — Aug 2012 – May 2016
  - Mathematics Minor; Geospatial Technology Certificate
  - Magna Cum Laude with General and Departmental Honors

AWARDS & SCHOLARSHIPS

- Computer Aided Verification (CAV) Student Fellowship — Jul 2017
- Outstanding Computer Science Undergraduate, University of Miami — May 2016
- National Merit Scholarship — Aug 2012 – May 2016

SKILLS

Python, Java, C, Unix, TensorFlow, Apache Spark, Amazon Web Services, Kubernetes, Docker, ElasticSearch, PostgreSQL, PostGIS, ESRI ArcGIS, MySQL, Redis, RabbitMQ, Django, Party Planning