Junhong Pan (Paul)

(626) 691-8088 | panjunhong05@gmail.com | linkedin.com/in/jpan05 | GitHub: paulpan05 | thepaulpan.com

Education

University of California San Diego **June 2022**
Bachelor of Science, Computer Science   GPA: 3.30
Coursework: Data Structures, Algorithms, Theory of Computation, ML for Music and Audio, Operating Systems

Experience

Amazon Web Services, Inc. (AWS) - Software Development Engineer Intern   June 2021 - Present
- o   Improving on a high-demand AWS service, **Identity Access Management (IAM)**, to reduce on-call time with customer requests.
- o   Building a **Java** web service to automate internal IAM policy data extraction request for customers.
- o   Performing ticket description to query matching, then using **Amazon Athena** to query through **terabytes** of data for customers.
- o   Simplifying ticket filing process for customers through creating **Ruby on Rails** web portal.
- o   Using Amazon's internal **Infrastructure as Code (IaC)** tools to automate all infrastructure provisioning.

Eli Lilly and Company - Research IT Intern   June 2019 - Aug 2019
- o   Launched sequence alignment game for benchmarking different servers' capabilities of running bioinformatics algorithms.
- o   Improved performance of Needleman-Wunsch algorithm **1000-fold** on a 10,000 sequences batch through parallelization.
- o   Initiated migration of on-premise hosting to AWS serverless offerings, reduced operation costs by **3 times**.

Myze - Software Engineer   Feb 2020 - Dec 2020
- o   Worked for clothing suggestions **startup**, researching and developing **collaborative filtering** algorithms for recommendations**.**
- o   Spearheading the main website for the company, focusing primarily on the user authentication implementation.

Projects

Foodie (CodePath iOS Demo Day: Best App Design) - github.com/Tinder-for-Boba/FOODIE-Mobile-App
- o   Lead development of UI in a team of 4, carefully picked **cross-platform layout engine (Yoga)** to target all user bases.
- o   Designed food bonding app which matched users with the same preferences and times available.

Beethoven Bot - github.com/paulpan05/beethoven-bot
- o   Created one of few models capable of generating multi-instrument music, took inspiration from **Snap Inc.'s BandNet paper**.
- o   Leveraged 3-layered **bidirectional LSTM** neural network with **attention layers** to enhance training time and generation quality.

SideTrack (LA Hacks 2020: Code Green Track Honorable Mentions / Google Cloud Prize Honorable Mentions)
- o   Proposed an application which warned users of pothole locations around the city.
- o   Predicted to have 4000 user porthole reports in the first year which can be used to improve the warning algorithm if launched.
- o   Derived a 3 million parameters **convolutional neural network** for image classification. Link: devpost.com/software/sidetrack.

Leadership

Association of Computing Machinery (ACM) UC San Diego Branch - Front-end Developer   Nov 2019 - Present
- o   Developed 4 of ACM's front-end tools and landing pages based off Figma design from the Design team.
- o   Hosted multiple Python workshops on web services with Flask with **40+ attendees** for each of the workshops.

IEEE UC San Diego Branch - Technical Committee Member / Projects Mentor   Sept 2019 - June 2020
- o   Mentored **3 teams with 4 people each**. Monitored progress to ensure teams are on track for end of the year presentations.
- o   Organized React workshop as a project mentor and assisted in **10+ workshops** as a technical committee member.

Skills

Languages	C++, Python, Java, JavaScript, TypeScript, Ruby, Swift, C, Go, Bash, R, MATLAB
Frameworks	React, Redux, TensorFlow, PyTorch, Node.js, Ruby on Rails, Guice, Spring MVC
Databases and Tools	Amazon DynamoDB, Amazon RDS, Amazon Athena, PostgreSQL, AWS Lambda, Amazon S3, JUnit, Jest
DevOps	Jenkins, Terraform, AWS CloudFormation, Docker