William S. Pierce

+1 (617) 485-4595 • wsp11@case.edu • linkedin.com/in/liam-pierce • github.com/LiamPierce

EDUCATION

CASE WESTERN RESERVE UNIVERSITY (GPA: 3.921)   Aug 2020 - May 2024
    BSE Candidate in both Electrical and Computer Engineering, Dean's List all semesters

BOSTON UNIVERSITY MET COLLEGE   Sep – Dec 2018
    Graduate Course MET CS 789 Cryptography

WORK EXPERIENCE

MOBILESPHERE   Boston, MA
    Machine Learning & Full Stack Engineer   May 2023 – Present
- Develop distributed infrastructure & data pipelines for a "Voice Mail Merge" feature of Slybroadcast, a direct to voicemail marketing platform that serves well over a million active users
- Create a 50 million file 14TB self-labeled (plain text transcriptions, quantizations, phoneme extractions) Libri-Light audiobook dataset extension. Use voice and silence detection to cut and reformat the dataset
- Use Python, PyTorch, and DeepSpeed to train and validate an ML voice cloning model with short enrollment
- Develop an email support response bot using ChatGPT 4's API that automatically finds user accounts and solves support requests. Enrolled 2 services with the bot which now acts as the first response for all support
- Operated "on call" for security incidents. Identified and prevented large influxes of malicious requests and implemented live fixes. Implemented a custom fail-to-ban and token-bucket rate limits across multiple services

    Back End Engineer for VPN Services, Full Stack Engineer for Internal Tools   Jun – Aug 2022
- Made a custom OpenVPN build in C++ that supports new connection logging & monitoring for internal tools

    Full Stack Engineer   Nov 2019 – May 2020
- Developed a custom REST framework, complete with database accessors, object models, an object schema validation protocol, and benchmarking tools. Implemented token and session based authentication
- Extended this custom REST to make the full API for Slyfone (API also used in Slynumber later) which interacted with an existing database schema, a Firebase notification & error tracking system, and a message aggregator post / webhook
- SQL & Google GO optimization for slyText, a mass messaging service, improving response times over 2x
- Designed internal NPA-NXX telephone porting lookup tools across multi-million row PostgreSQL tables

AZTHERAPIES   Boston, MA
    Contract Data Analyst   Jul 2020 – Jan 2021
    Data Analyst Assistant   Sep 2019 – Jul 2020
- Developed an internal study data stratification tool. Worked alongside the company's clinical operations team to automate study data uptake & formatting processes. Modeled study data outcome probabilities
- Developed a health care app DOCV and accompanying business plan

BOSTON UNIVERSITY   Boston, MA
    Software Contractor   Dec 2016 – Jul 2020
- Developed a cloud-based customer management and order fulfillment system for BU's AGNI Magazine
- Shaped the platform to meet the magazine masthead's exact needs
- Conformed mishandled data into a new & well validated schema. Ensured long term structure & validation

RELEVANT EXPERIENCE

DEMON DATABASE MANAGEMENT (demondms.com)   Boston, MA
    Founder & Lead Engineer   Jun 2020 – Present
- Create a fully featured management platform to help small to medium sized non-profit publishers who can't otherwise afford CRM & subscription management systems
- Grow to manage over 120,000 customer records and more than $1.2 million of business-critical sales data across 7 internationally acclaimed literary magazines and presses in just 3 years
- Design record-search and record-matching algorithms to automate order entry & order attribution
- Perform penetration testing and security analysis of the entire codebase
- Work with DigitalOcean, CentOS, PHP, Python, SQL, PDO, Redis, PrinceXML, CUPS, ZeroMQ, Google Cloud, Amazon S3, Ratchet WebSockets, OAuth, SendGrid, Stripe, Shopify
- Develop no-code block & action based automation interface that gives non-programmers powerful tools
- Implemented TOTP 2FA. Developed secure HMAC based API authentication methods for third party use
- Automated invoice management & payment onboarding. Developed internal tools for service monitoring