

William S. Pierce

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EDUCATION

CASE WESTERN RESERVE UNIVERSITY (GPA: 3.921) BSE Candidate in both Electrical and Computer Engineering, Dean's List all semesters	Aug 2020 - May 2024
BOSTON UNIVERSITY MET COLLEGE Graduate Course MET CS 789 Cryptography	Sep – Dec 2018

WORK EXPERIENCE

MOBILESPHERE

Machine Learning & Full Stack Engineer	Boston, MA May 2023 – Present
<ul style="list-style-type: none">Developed 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 usersCreated 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 datasetUsed Python, PyTorch, and DeepSpeed to train / validate an ML voice cloning model with short enrollmentDeveloped 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 supportOperate “on call” for security incidents. Identify and prevent large influxes of malicious requests and implement live fixes. Implement 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
<ul style="list-style-type: none">Made a custom OpenVPN build in C++ that supports connection logging & monitoring for internal tools	
Full Stack Engineer	Nov 2019 – May 2020
<ul style="list-style-type: none">Developed a custom REST framework, complete with database accessors, object models, an object schema validation protocol, and benchmarking tools. Implemented token and session based authenticationExtended this custom REST to make the full API for Slyfone (API also used in Slynnumber later) which interacted with an existing database schema, a Firebase notification & error tracking system, and a message aggregator post / webhookOptimized SQL & Google GO for slyText, a mass messaging service, improving response times over 2xDesigned internal NPA-NXX telephone porting lookup tools across multi-million row PostgreSQL tables	

AZTHERAPIES

Contract Data Analyst	Boston, MA Jul 2020 – Jan 2021
Data Analyst Assistant	Sep 2019 – Jul 2020
<ul style="list-style-type: none">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 probabilitiesDeveloped a health care app DOCV and accompanying business plan	

BOSTON UNIVERSITY

Software Contractor	Boston, MA Dec 2016 – Jul 2020
<ul style="list-style-type: none">Developed a cloud-based customer management and order fulfillment system for BU's AGNI MagazineShaped the platform to meet the magazine masthead's exact needsConformed mishandled data into a new & well validated schema. Ensured long term structure & validation	

RELEVANT EXPERIENCE

DEMON DATABASE MANAGEMENT (demon.dms.com)

Founder & Lead Engineer	Boston, MA Jun 2020 – Present
<ul style="list-style-type: none">Created a fully featured management platform to help small to medium sized non-profit publishers who can't otherwise afford CRM & subscription management systemsHave grown 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 yearsDeveloped drag and drop filter-based advanced search interface, SQL schema parsing console, and all API infrastructure within sub-org Settable (settable.com) offering search query generation as a serviceDesigned record-search and record-matching algorithms to automate order entry & order attributionPerform yearly and per-update penetration testing and security analysis of the entire codebaseEstablished isolated staging server with rigorous service testing procedures to prevent downtimeWork with DigitalOcean, CentOS, PHP, Python, SQL, PDO, Redis, PrinceXML, CUPS, ZeroMQ, Google Cloud, Amazon S3, Ratchet WebSockets, OAuth, SendGrid, Stripe, ShopifyDeveloped no-code block & action based automation interface that gives non-programmers powerful toolsImplemented TOTP 2FA. Developed secure HMAC based API authentication methods for third party useAutomated invoice management & payment onboarding. Developed internal tools for service monitoring	