

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 <ul style="list-style-type: none">Developed distributed infrastructure and data pipelines for a “Voice Mail Merge” feature of Slybroadcast, a direct to voicemail marketing platform serving well over a million active usersCreated a 50 million file 14TB self-labeled (plain text transcriptions, quantizations, phoneme extractions) Libri-Light audiobook dataset extensionUsed 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. Implement a custom fail-to-ban and token-bucket rate limits across multiple servicesCreated admin interfaces for 3 services that included analytics, user search, and customer support tools, giving the company the ability to respond effectively to support requests without asking developers Back End Engineer for VPN Services, Full Stack Engineer for Internal Tools <ul style="list-style-type: none">Developed a custom OpenVPN build in C++ that supports advanced connection logging & metricsCreated a client facing realtime VPN metrics & log aggregator alongside the company's lead engineer Full Stack Engineer <ul style="list-style-type: none">Developed a complete REST framework, complete with database interfaces, object models, an object schema validation protocol, and benchmarking toolsExtended this REST to make the API for Slyfone (later also for sister app Slynnumber) which interacted with an existing database schema, Firebase FCM + Crashlytics, and a US phone service provider's APIsOptimized SQL & Google GO for slyText, a mass messaging service, improving response times over 2xCreated VOIP porting region analysis tool that efficiently accesses multi-million row PostgreSQL tables	Boston, MA May 2023 – Present Jun – Aug 2022 Nov 2019 – May 2020
AZTHERAPIES Contract Data Analyst Data Analyst Assistant <ul style="list-style-type: none">Developed a study data stratification & visualization platform. Worked alongside the company's clinical operations team to automate daily data uptake & formatting processesDeveloped a health care app DOCV with accompanying cloud server infrastructure and business plan	Boston, MA Jul 2020 – Jan 2021 Sep 2019 – Jul 2020
BOSTON UNIVERSITY Software Contractor <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 needsScripted the conformation of mishandled FileMaker Pro data into a new & well validated SQL schema	Boston, MA Dec 2016 – Jul 2020

RELEVANT EXPERIENCE

DEMON DATABASE MANAGEMENT (demon.dms.com) Founder & Lead Engineer <ul style="list-style-type: none">Created a fully featured cloud-based 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 regular penetration testing and security analysis of the service and 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, WebSockets, OAuth, Javascript, HTML/CSSDeveloped no-code block & action based automation interface that gives non-programmers powerful toolsImplemented TOTP 2FA and secure HMAC based API authentication methods	Boston, MA Jun 2020 – Present
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