Hi, I'm Max

I'm a Full-Stack Developer, DevOps Engineer, and Architect with 11+ years experience across multiple segments of the tech industry specializing in Automation, Architecture, Developer Experience, and Games. I'm passionate about developing Interactive Experiences and Ephemeral Infrastructure with a focus on Sustainability, Decentralization and Performance. I'm excited to use Computer-Vision, Machine Learning, Digital-Twins, and Renewable Energy to redefine how we work, play, and collaborate with each other in digital spaces.

Outside of work, I enjoy cooking, reading, contributing to open-source projects, and learning about Amsterdam's hidden playgrounds as an examination of discoverability, logistics, and agency in systems design.

Let's chat about the cloud and the coolest things you can do with a kilowatt ⚡

Things I like to work with

Cloud Platforms	Azure, GCP, Bare-Metal, Hybrid
Orchestration	AKS, GKE, Kubernetes, K3s, KIND, Tanzu, Docker
Virtualization & Containers	QEMU, KVM, Multi-Pass, LXD,
Databases & Caches	PostgreSQL, MongoDB, Hazelcast, Redis, SQLite
Identity Tools	IAM, RBAC, Zero Trust, Secrets Management
Configuration Management	Ansible, Terraform, MAAS
Languages	Python, C#/.NET, BASH, Go, PowerShell, CSS, HTML, JS
Games	Audio and Simulation: Unity 3D, Blender, PyGame, Ableton
CI/CD	CircleCI, ArgoCD, Github Actions, Jenkins, GameCI
Operating Systems	Linux (Debian, Ubuntu), Windows, Android

Employment History:

FedEx Express, *Senior Architect for IT Reliability* (2020 - 2022)

As Sr. Architect I led efforts to shift FedEx's European co-location and public cloud assets to on-prem and hybrid-cloud following the acquisition of TNT Netherlands. Coordinating with international teams, I developed a golden-path architecture using Ansible, Terraform, Azure Cloud, and VMware Tanzu which aligned with international business OKRs and key strategic initiatives.

I Crated/contributed to:

- Multiple static website generator micro-services (**mkdocs, jekyll, material, python, webpack**) and accompanying build/deploy pipelines (**Azure, Github, Jenkins, Ansible, Terraform**)for multiple teams to automatically generate documentation that is compliant with brand-standards for css, UX, branding, and accessability.

- Multiple DBaaS micro-services (**MongoDB, Postgres 11, Hazelcast IMDG**) for use with company PaaS offering.
- Microservice to dynamically generate Terraform files (**backend, tfvars, providers, versions**) and HCL from json/yaml/database values allowing the creation/replication of the full azure production account as an ephemeral platform.
- Multiple Terraform modules for use with company IaaC, PaaS, SaaS, and IAM/RBAC products/projects:
- Akv2k8s: end-to-end test and install of **Azure Keyvault** to **Aure Kubernetes Service** using both Managed Identities and Service Principles to synchronize secrets, keys and certificates between Azure and Kubernetes using mutating webhooks and init containers. Utilized the Kubernetes Alpha Provider to install CRDs required to automate testing.
- Azure Pod Identity: end-to-end test and install of aad-pod-identity, a project allowing Kubernetes clusters to access cloud resources using Azure Active Directory. Also utilized the Kubernetes Alpha provider for installing custom CRDs to automate testing:
    - Keyvaults, secrets, certificates, and keys
    - Blob storage accounts and containers
    - IAM/RBAC and AD groups, users, applications and identities
    - AKS clusters, Virtual Machines, Scale Sets

STRIVR, *Senior Platform Engineer* (2019 - 2020)

As a Senior Platform Engineer, I was originally responsible for developing a new support and RMA process for the growing Virtual Reality startup. My primary focus was the development of automation and software to relieve delays VR Headset and SoC repair.

I then took over the duties of the former Principle Software Engineer and was tasked with using the tools and learnings from my previous assignment to optimize and enhancing Ci/Cd, IaC, and embedded capabilities of the cloud platform to capitalize on changes to the market.

Crated/contributed to:

- Lead developer for self-service and automated hardware RMA software product (**ansible, bash, GCP, PSQL**)that increased RMA throughput by automating diagnostics, troubleshooting, documentation, reporting and inventory of damaged/returned Linux SOC edge compute units and **Oculus/Pico** VR HMDs.
- Lifecycle management of all corporate and client cloud infrastructure on **GCP**, and entire physical fleet of linux SOC edge compute units and Virtual Reality headsets via **python, bash, ansible, terraform**.
- Virtual Reality Office tool allowing employees to create their own customizable VR office space (**Unity3d, C#, .Net, Ubuntu, redis, postgres, GCP**), share it with friends in VR and export a custom Zoom background.
- Training sessions to other Sr. Engineers on **Unity3d, Clonezilla, Grub, WSL/Ubuntu.**
- Company's content deployment pipeline (**python, shell, docker, Postgres 9, GCP, Ansible**) which reduced time to deploy from weeks to less than 10 minutes.
- System, container, and live infrastructure security scanning via S**nyk, Docker and Trivy, Ansible** with **GCP**.
- Linux SoC system image build and upgrade process using ubuntu **preseed** (and then **cloud-init**), **vagrant, clonezilla and ansible**

Political Campaign, *Full-Stack Developer* (2019 - 2020)

Designed and built community management discord bot (**C#, .Net Core, Discord.Net, AWS EC2, S3, IAM, Postgres**) to gamify online social interactions with users(10k+) and provide several tools/features not available in other management bots, such as:User state, preferences, and role persistence(**SQL, Wix, Google Sheets API**)

- Moderation team time tracking (**C#, SQL**)
- Gamified content engagement tools(**C#, Unity3D, SQL**)
- Custom role-based automation(**C#, SQL**)
- Quarantine zones/roles(**Discord.Net, C#**)
- Community organization/outreach functions(**C#, Discord.Net, gCloud, postgres, MailGun**)

Pizza Hut Connect LLC, *Systems Engineer* (2016 - 2019)

When Pizzu Hut of America split it's operations and engineering departments into separate buisness units to focus on more targeted KPIs, I transferred from Pizza Hut of America to Pizza Hut Connect along with the rest of my team.

As a Systems Engineer at Pizza Hut Connect, I worked directly with the Principle Architect to guide decisions on hardware purchasing, Road-map development. I also served as the primary East US point-of-contact for manufacturers and partners(**Dell, Wyse, VXL, Samsung, Zotac, HP,ParTech, NCR, Partner, Posiflex, Wincor/Nixdorf**) for evaluations, PoCs, and hardware-level issues (**Bios, hardware revisions, drivers**) for an equipment footprint of over 50,000+ units in the US.

- Maintenance and development of virtualized hardware stack for training labs (**VMware, VirtualBox, vagrant, Ubuntu, Windows, Linux, Ansible**) which provided emulation of full point-of-sale system and network for training scenarios.
- Mobile Device Management (**MDM**) and security testing (**Samsung, tizen**)
- $10,000,000+ negated hardware replacement costs due to patches and optimizations for low-spec hardware during my tenure.

Developed as lead or contributed to the following:

- Compatibility patches and scripts (**Linux, bash, xorg, xinput, grub, udev, rc.local**) and certified functionality of all new hardware (Point-of-Sale devices, Terminals, Peripherals, Tablets, Signage, Servers) entering Pizza Hut ecosystem on proprietary Linux(**Ubuntu, SUSE, Debian**) distributions which reduced the cost of entry for new franchisees and extended the life of hardware.
- Internal mobile app (**Android, Android Studio, Java**) to interact with proprietary software(**Java, Linux, Bash**) over PCI compliant wireless APs (**SonicWall**) used by 1000+ management-level employees.
- Interactive, dynamically-generated network and hardware visualization program (**Unity 3D, C#, Bash, Python/Ansible, SQL, Ubuntu**) called "Virtual Agent" which mapped, monitored, and diagnosed issues with store networks and hardware(Linux, Windows) identified as biggest call-drivers for the help-desk and interfaced with ticketing systems(BMC Remedy)_. Users received visual step-by-step instructions on how to resolve many common hardware and network issues without the need to contact an agent.

- Custom Windows image creation(**Windows 7, 8, 10, registry, chocolaty, powershell**) optimized for low-memory devices and PCI compliance.

Pizza Hut of America., *RIS Systems Specialist*

To more specifically focus on US operations, Pizza Hut Inc split into multiple organizations. The Pizza Hut Inc RIS organization of which I was a member was moved into Pizza Hut of America.

- Directed OS migration hardware compatibility testing (**Xorg, Xinput, grub, drivers**) and certification (**SuSE to Ubuntu**) of point-of-sale hardware and peripherals (**servers, terminals,touchscreens, signage**)
- Maintained and contributed to Golden Image build pipeline (**Bash, Powershell, Ansible, Vagrant**) for Linux and Windows images.
- Setup and Deployment of remote servers using **PXE, Clonezilla, Acronis, Ansible, and Intel AMT, and Dell iDRAC**.
- Performed system component (**CPU, RAM, HDD, SSD**) performance benchmarking (**Linux, Bash, SQL, Vagrant**) and guided hardware purchasing decisions for upgrade/replacement strategies.
- Created brand-standards enforcement and hardware life-cycle management reporting microservice (**JavaScript, HTML, CSS, Python, flask**) that converted internal documentation formats to markdown and wiki formats.

Pizza Hut Inc. *Sr. Restaraunt Information Systems Analyst*

- Created new system of Help-Desk analyst KPIs and metrics (**SQL, Cisco Agent, BMC Remedy,Excel**) which vastly improved clarity of employee performance and reporting granularity.
- Designed and built gamified leader-board (**Unity3D, C#, SQL, Cisco Agent, BMC Remedy**) and training materials to supplement KPIs and metrics.
- Authored fully-automated and computer-assisted troubleshooting tools (**Linux, Java, Bash**) for Help-Desk employees to resolve non-technical, call-driving issues identified by leadership as resource intensive (**Payroll, Inventory, Reporting, Ideal-usage, Labor**)
- Mentored and trained L1 Help-Desk employees on Pizza Hut software & hardware stack(Linux,proprietary software (**Java, SQL, bash**), point-of-sale hardware, servers, and network equipment. Monitored (**Solarwinds**), troubleshot, and resolve network issues with external help desks and vendors.

Pizza Hut Inc, *Restaraunt Information Systems Analyst*

- Remote management of debian-based point-of-sale hardware (**terminals, AIO devices, printers, cash registers, switches, routers**) for 4000+ sites.
- Senior Analyst for RMA/advanced exchange process, lifecycle, and SLA with hardware vendors and service providers

- Managed network reliability monitoring and vendor interactions for remote sites as part of team working with SolarWinds alerting and Sonicwall APs.
- Supported and contributed to proprietary business software (Java, Linux, SQL, Windows) and processes (**payroll, inventory, cash management, training, scheduling**) utilized by managers and employees daily in-stores.

Freelance Developer (infrequently: 2009 - Present)

- Nexus Mods - Independent
    - Skyrim Lighting mod (**ENB, OpenGL, C#**)

      Increased the visual fidelity of the game experience and resolved bug in default eye-adaptation post-processing effects with AMD graphics cards in cross-fire configurations.
    - Skyrim free-camera mod (**Papyrus**)

      allowed manual camera DoF, lighting/ToD, and smoother movement for video/photo capture of gameplay.
    - Skyrim Low-Poly Mod (**ENB**)

      Abused LOD and lighting systems to radically reduce poly-count and texture mapping fidelity of geometry while preserving vertex colors and post-processing effects. This created the illusion of the game having a low-poly, cell-shaded aesthetic similar to LOZ: WindWaker or BOTW.
- Curse Mods - Independent
    - World of Warcraft x InitialD (**Lua, WeakAuras**)

      Allowed players to live out their Initial-D drifting dreams by playing eurobeat music and displaying animated speed-lines in the UI whenever a speed-boost was detected as active on the player.
- Kovadon (Defunct), *Ganeplay Systems Engineer*, Fable of The Elements (*Unreleased*)
    - Spline-Based Particle Animation System (**C#, Unity3D**)

      Based on multiple GDC talks which combines a guided-generation spline system, scriptableobjects, and animation curve data to rapidly create and iterate on game assets while specifically paying attention to proper use of animation principles(squash, anticipation, timing etc...).
    - Input Wrapper (**C#, Unity3D, DirectInput**)

      Allowed keyboard/game pad control schemes to be altered, created, saved by users at runtime in Unity3D. Provided enhancements such as: device agnostic syntax, per-axis sensitivity and dead-zone configuration, rumble support, ability to track active/inactive inputs, duration of inputs, and combinations/order of concurrent of inputs.
- GameBreaking Studios, (*Senior Software Development Engineer*),
    - BespokeCI

Temp contract position. Provided containerization, static code analysis, and feature development for proprietary CI tool (**Powershell, C# .NET, Docker**) for building Unity3D games in CI systems.

Feature Development:

- Linux and MacOS support
- Containerized product build process utilizing optimized multi-stage builds
- Create static code analysis security scanning pipelines
- Advanced compression methods (**7zip / LZMA**)

Music Technologist (2006 - 2017)

- Music Composition and Production:
  - Dragon's Eye Productions - Furcadia & Pixel Virtuosa

    Wolf-Howl Award for "Best Original Sound Design"

    - *Ableton, Sound Design, Music Composition, Spoken Word recordings*
  - Cat's Eye Productions - Facebook Slots

    Sound Design and Composition for casino game

    - *Ableton, Sound Design, Music Compositions*
  - Bizianes Music (Student)

    Studio design and construction, mixing, mastering
  - Reddit.com/r/GameAudio

    Community sound-design challenge organizer
  - Live and Studio Performances
    - Taste of Chaos Tour and Brewery Thunderdome appearance with AFTS
    - 2009 - 2012 Guitarist/Composer for local band AFTS
- Music/Audio Software
  - Volumetric reverb and sound occlusions system (**Unity3D, C#**). Based on a talk by David Sirland of Dice and methods used in Battlefield 3 to create realistic positional audio. System captures data about surrounding geometry and sound sources to determine the appropriate level and type of reverb to use as well as realistically occludes sounds based on line of sight, distance, and position.