Crystal Hansen

Professional Profile

Experienced **Full-Stack Developer** with over **18 years** in web and application development, data analysis, system integrations, and migrations. Adept at building and maintaining scalable, high-performance applications in **Angular, React and TypeScript frameworks, Java, Python, Flask, .NET, C#, Drupal, PHP**. Passionate about **problem-solving, automation, and optimizing system performance**. Extensive experience in API integrations, database architecture, and secure web infrastructure.

Technical Skills

- **Programming Languages**: Java, TypeScript, Node.js, Python, PHP, .NET (C#, VB)
- **Web Development**: Angular.js / Angular / React / TypeScript / HTML5, CSS3, JS, BS5
- **Backend & APIs**: Drupal/PHP, WebAPI, Spring Boot, JDBC, RESTful APIs, SOAP
- **Database Management**: MySQL, PostgreSQL, SQL Server, MariaDB, SAS EG
- **Content Management & Migrations**: Drupal, WordPress, custom modules, SEO file optimizations, Google Search Console, GTM, LinkedIn/Google Ads
- **Server & Deployment:** Tomcat, Catalina, Apache, Nginx, Docker, Ubuntu, Unix, Linux
- **DevOps & CI/CD:** Git, GitHub, GitLab, Jenkins, GitHub Actions, TFS, Drush, Composer, CI/CD pipelines, Agile methodologies
- **Cloud Platforms:** AWS, Azure, GCP
- **Security & Optimization:** DKIM, SPF, OAuth, Basic Authentication, Role-Based Access Control (RBAC)

Experience

FREELANCE DEVELOPER, CRYSTAL HANSEN ARTOGRAPHIC; CANADA

Freelance Projects & SaaS Applications (2025)
Consistently developed projects to stay current with modern web, backend, cloud and AI technologies.
Current work - March 2025 - present

- **Studio Booker** – Refactored front end Studio Booking to Angular 17 -standalone-components, TypeScript, BS5, fullcalendar, reactive-forms, html2pdf, localstorage, application for managing studio bookings, rentals, and calendar views using **Angular17 (TypeScript v5+), DevOps** *Visit Github:* studio booker Demo: booker.crystalhansenartographic.com
- **crystalhansenartographic.com Developed a full-stack web portfolio platform** using **React** (**Vite**, **TypeScript**), **Node.js** (**Express** + **Cron**) Server backend included, and a **PHP API** backend for production server. Integrated dynamic image galleries, product listings, and studio scheduling with automated daily data generation and **SEO** optimization using **React Helmet** and .htaccess routing. Includes **DevOps, CI/CD.** Demo: crystalhansenartographic.com Visit GitHub: chartcom , PHP-API
- **AI/NLP Chatbot SaaS** – Developed a micro-service chatbot using **Spring Boot**, **Spring MVC**, **OpenAI GPT API**, and **AWS EC2, DevOps** deployment. Focused on emotional support and custom fortune-telling prompts. Github: fortune-ai (Oribie AI) Demo: pinmento.com bottom right.
- **Data Trend Generator** Python sales generation tool designed to mimic current sales trends in photography for mock data used in a Drupal dashboard, DevOps, deployment shared host. Github: user_profile_account , Python flask-generate-sales
- **Bookit App Platform**: Refactoring of past booking system of 2019, angular.js calendar booking, cart functionality into **Maven**, **Spring Boot**, **Spring**, **Java API** application, GitHub:

- **Bookit** to inject website bookings in a centralized platform. Cloud platforms **AWS EC2, RDS** / **Google Cloud** Technologies including **DevOps** and **CI/CD**.
- **zackly-rite.ca** Developed a modular **SPA**. A seamless end-to-end flow for scheduling services integrating the **Bookit App Platform** above with RESTful PHP APIs, calendar scheduling, PDF/email confirmations, and bot protection with reCAPTCHA. Features include real-time availability, schema-based form validation (Yup), route handling, and SEO via React Helmet. **DevOps** and **CI/CD**.Visit GitHub: zackly-rite-spa , PHP-API, Bookit

WEB DEVELOPER (FULL-STACK), PGSTECH; — March 3, 2021 - April 4 2025 |

Montreal, QC

- Developed and maintained **emtp.com** (PHP) with optimized performance and security.
- Coded HubSpot and Website **data migrations & SEO optimizations**, ensuring URL consistency and file naming standardization.
- Stack Technologies used: **HTML**/CSS3/**Javascript, PHP** / **Mysql**, Composer, Drush, **Docker**, Form testing
- Integrated **HubSpot APIs, Brevo API, PayPal gateway** using PHP within a Drupal framework for automated lead management coupled with forms and email marketing, deals and sales.
- **Processes** implemented deployment pipelines, monitoring, infrastructure.
- Built **custom modules** for file handling, ratings, and email subscriptions.
- Optimized website **PHP/Drupal API performance**, resolved caching issues, and implemented **security best practices**.

Key Projects:
- **Star Rating System:** Migrated PHP-based ratings into structured Drupal. Drupal Star Rating
- **CRM Migration:** Designed and executed HubSpot data migration, licensing api integrations and workflows. Visit: Hubspot Migration
- Drupal **CMS Migration:** Designed and executed website data migration content types and custom module integrations. Visit emtp-drupal
- **Brevo API Integration:** email marketing campaigns with API automation.
- **In-App Advertising API:** Developed secure EMTP-based monetization tools. See public example: PHP-API

FREELANCE DEVELOPER, CRYSTAL HANSEN ARTOGRAPHIC; CANADA 2019-2021

Freelance Projects & Self-Initiated Applications (2019 – 2021)
Consistently developed projects to stay current with modern web technologies.
Past Work: Sept 2019-Feb 2021

- **Studio Booking & Rentals SaaS** – Designed and implemented a cloud-based application for managing studio bookings, rentals, and calendar views using **Angular (TypeScript v2+)**, **Java**, **Spring / Spring Boot**, and **Hibernate**. *Visit:* studio Calendar
- **Gallery & Portfolio Platform** – Built user-facing features for selling photo prints, showcasing work, and collecting client reviews. Tech stack: **Angular 2**, **Java**, **Spring Boot**, **Hibernate**.gallery-loader
- **Dynamic Gallery Display** – Created masonry layouts for image galleries with **lazy loading**, using **vanilla JavaScript** and **Java**, **Spring** for the backend.
- **Data Analysis Tool** – Built a screen scraping and analysis tool for extracting industry data to support marketing decisions using **Python**, **MySQL**, and **BeautifulSoup**. python

CANADIAN WESTERN BANK   Dec 4 2011 – 2019 | EDMONTON, AB
Manager, IT Risk (2018 – 2019) — Java Developer
- Developed credit risk models and scorecard **applications** using **Java**

- **Built Java applications** using **Angular, TypeScript,** JSP, Struts, AJAX, SAS API
- **Task & Bug Tracking System:** Built a **custom task tracking system** in **Java Angular** with a **parent-child** structure for seamless workflow management following Agile and ITIL methodologies.
- Developed one-page UI/UX forms for scorecards Angular and Typescript
- **Testing & Debugging:** Conducted unit testing, performance tuning, and troubleshooting to ensure application stability and efficiency.
- Containerizations using Docker, Anaconda and Cloud with Azure, GCP;
- **Impact** (speeding up deployments, reducing downtime, improving team collaboration)

IT Risk Analyst (2016 – 2018) — Java Developer

- **Designed real-time financial data pipelines for risk analysis and forecasting.**
- Built **risk assessment applications** using **Java, SQL**, and **REST APIs**.
- Developed data collection and **model validation** for regulatory compliance.
- **Built Java applications** using **Angular, TypeScript,** JSP, Struts, AJAX, SAS API
- **Scorecard Systems:** Engineered **quantitative and qualitative scorecard applications**, integrating automated risk rating logic and real-time data processing.
- **Backend Development:** Developed and optimized **JDBC-based SQL queries** for **Oracle/ MySQL,SAS**, ensuring efficient data retrieval and storage.
- **Task & Bug Tracking System:** Built a **custom task tracking system** in **Java Angular** with a **parent-child** structure for seamless workflow management following Agile and ITIL methodologies.
- **Front-End Development:** Designed UI/UX **SPA, React, Angular, TypeScript** for streamlined user experience and faster data input.
- **Testing & Debugging:** Conducted unit testing, performance tuning, and troubleshooting to ensure application stability and efficiency.
- Nominee Pillar Award Q3 Achievement Awards, Canadian Western Bank - 2017

Application Developer II (2013 – 2016)

- Developed various **Java & .Net** tools to support financial migrations **ETL** processes, **Multi-threading**, transactional log processing tools.
- Develop **SQL SSIS** Testing and deployments for a Temenos T24 banking system migration, optimizing SQL for go-live processing.
- **Transformations** created using SSIS .NET tools to transform Accounts, Terms, Transactional Data types in new T24 Standards
- **Tools** used (CI/CD, version control, automation), GIT, TFS,
- Worked with Azure, Docker

Education

Northern Alberta Institute of Technology, Edmonton AB — **Computer Systems Technology**, 2009

University of Saskatchewan, Saskatoon, SK - **BA,** 2002-2005

Reference:

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