

Nir Jacobson

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Nir Jacobson
Designer and Engineer
April 2023 – present

Albany, CA
New York, NY

Developed and published music composition software for existing FM synthesis models, making these systems programmable using a modern interface

(C/C++, Qt, Windows, macOS, Linux)

Developed an AI language model to automatically generate songs in the composition software mentioned

(PyTorch, C/C++)

Designed and implemented hand-held music players that use authentic synthesis hardware, compatible with the composition software mentioned as well as a catalog of existing music

(AVR ATmega, C, Fusion 360)

Developed a cross-platform Phong-based 3D animation renderer for COLLADA files, where COLLADA is an XML-based 3D interchange format developed by Sony and now managed by the Khronos Group

(C/C++, Qt, OpenGL, Vulkan, XML, COLLADA)

Author of *The Exploration Series*, five comprehensive texts on the technologies and subject matter that power my products

(<https://www.nirjacobson.com/the-exploration-series>)

MongoDB
Software Engineer 3
November 2018 – April 2023

New York, NY

Full-stack developer on MongoDB Atlas (Cloud DBaaS)

(Golang, Java, React, TypeScript, Node.js)

Designed and implemented a log ingestion system to reveal patterns in mongoDB feature usage and system behavior to teams working on performance optimizations

(Golang, Java, React, TypeScript, Node.js)

Developed a system for performing automated fleet maintenance allowing many employees to safely introduce model and API changes using a self-service tool

(Java, React, TypeScript, Node.js)

Led projects to leverage new cloud provider services such as new availability zones and more performant disk types

(AWS, GCP, Azure, Java)

Implemented frontend UI components by matching Figma and InDesign documents exactly

(React, TypeScript, Node.js)

DNV GL
Software Developer
May 2014 – March 2017

Berkeley, CA

Developed data acquisition software for PV module (solar panel) performance characterizations, where acquired data was used for later reporting on and certification of PV module manufacturers

(LabVIEW, Java, C#)

Developed a web application for performance-data storage and access, which automated collecting large datasets into a specific spreadsheet format and directory structure

(MEAN stack)

Developed scripts to automate tasks in statistical analysis and report generation, reducing a multi-day workflow to about one hour

(Microsoft Excel, VBA)

PV Evolution Labs
Technical Writer
December 2012 – May 2014

Berkeley, CA

Authored engineering reports on characterizations of solar equipment, which were used to certify and rank solar panel manufacturers

(Microsoft Office)

Developed data acquisition and reporting procedures to reduce report generation time and better track which employee is responsible for a given set of acquired data

Computer Science, B.S.
University of California, Santa Cruz
September 2015 – June 2018

Website
<https://www.nirjacobson.com>

GitHub
<https://github.com/nirjacobson>