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# NICK PETALAS

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## Employment

**Senior Software Engineer**          **Genesis Global Technology LTD**          **Dec 2019 – Oct 2024**

I was a core web platform team member and Technical Lead for the "learn" team.

- Involved in architecting and building multiple iterations of the web platform.
- Facilitated the move from the legacy Angular codebase to one using stenciljs and subsequently the latest iteration of the web platform which is built on top of Microsoft FAST with custom web components and design systems.
- Mentored fellow developers, onboarded new starters, offered tier 3 support.
- Worked on Genx CLI, low-code tooling, app seeds, custom docusaurus plugins.
- Occasional DevOps work as needed, Infrastructure as Code (AWS Amplify) and github pipelines.

Note: Genesis is the leading low-code platform for financial markets-grade applications, with top tier clients like ING, City, Bank of America, BNY, LCH, StoneX, Quantitative Brokers, Octaura, Neptune, Marex and more.

**Software Engineer**          **Elemental Concept LTD**          **Sep 2018 – Dec 2019**

During my time in EC I was part of multiple projects and had the opportunity to learn a lot of new technologies and transition from a mostly back-end to a full-stack software engineer.

**CorResilience**: personalized health coaching mobile app with blood test labs and Fitbit integration.
**WellteQ**: health focused mobile app, Fitbit and Google Health integration.
(ionic, cordova, NodeJS and Java back-ends, MySQL and MongoDB)
**Gift & Go**: B2B gifting and loyalty / rewards platform, integration with multiple Amazon APIs, 10+ microservices, dockerized, on AWS (MySQL, Java 11, Spring Boot, Eureka, Angular).
**Go Fast**: internal project focusing on rapid prototyping, skeleton apps, reusable components (Angular 7, NestJS)

I was involved with Gift & Go the most, I helped refactor a lot of the legacy code, split monolithic systems into appropriate microservices, optimize queries and performance, dockerize services and automate the deployment pipeline. Also developed custom APIs for third party integration on a client-by-client basis. (Scientific Games are planning to give out rewards through their cabinets in Las Vegas casinos using G&G APIs)

**Software Engineer**          **Enigma Software Solutions LTD**          **Feb 2017 – Sep 2018**

I was part of the core team developing a collection of tools for Enigma's clients who are in the online betting and gambling business. That collection of tools included both client-facing websites and back-end software (management of clients, traders, bets, fixtures, payment systems, report generation, cashier management system for retail bet shops).

I specialized in Java and SQL, mainly developed services and optimized back-end code. Additionally, I had also been involved in the maintenance of some legacy systems (PrimeFaces websites, Oracle WebLogic servers).

**Software Engineer**          **Safemarket LTD**          **Dec 2014 – Oct 2016**

I actively participated in the architectural design of internal tools for the Erybo project and managed multiple databases.

- Developed specialized data mining and knowledge extraction tools that automatically update Erybo's knowledge base (SQL, RDF databases) mostly using Java (Jsoup, Selenium, HikariCP, Apache Jena).
- Created content-generating tools (automatic generation of trivia questions for Erybo's quiz app).
- Participated in the development of the control panel used for handling users, questions and quizzes.
- Created automatic audio and video manipulation tools for cropping, transcoding, audio level adjustment, segmentation, detection of silent/dark audio/video segments. (Java, ffmpeg)
- Created services for on-demand parsing of information about entities, media extraction and storage, and other utilities. (Java, Netty)
- Developed part of the android version of Erybo's trivia app Quizedia.

- Supervised and trained interns mostly in web scrapping and quiz content generation.

## Education
**Thessaloniki, Greece**                    **University of Macedonia**                    **Oct 2012 – Oct 2015**
BSc In Applied Informatics. Final Grade: 7.7 / 10
Thesis: A study on Optimization of Object-Oriented Design using Genetic Algorithms.
Grade: 10 / 10; Supervisor: Alexander Chatzigeorgiou.

## Other Technical Experience
I am comfortable on Windows, MacOS and linux, prefer to use the command line whenever possible.
I am also very interested in hardware, networking, databases, filesystems, automation / scripting.

Below are some examples of **personal projects** I have worked on outside of work.
I try to always keep learning and I enjoy picking up new skills and familiarizing myself with exciting technologies.

• **Homelab**: I have a Proxmox server at home running multiple VMs. Mainly a TrueNAS VM with HBA passthrough for my NAS (8-wide raidz2) and a Debian VM running dockerized services (traefik, glances, uptime-kuma, code-server, homepage, plex, radarr, sonarr, lidarr, prowlarr, sabnzbd, qbittorrent, iperf3, netdata, autobrr, omegabrr, cross-seed, qbit_manage, flaresolverr, filebrowser, home-assistant). I also run my own **network stack:** OPNsense router on a N100 box, pi-hole (DNS level adblocking), unbound (recursive DNS resolver), Omada SDN Controller to manage my wireless Access Points.
• **Heuristic vector image generator**: Software which generates images using a genetic algorithm. It attempts to recreate a target image using simple semi-transparent polygons (Multithreaded, Java). Working on new version in Rust with portable SIMD and there is even a web-based version available at artgen.xyz
• **FreeCell Solitaire Solver:** A program that automatically solves layouts of FreeCell Solitaire boards. Multiple graph traversal algorithms were studied and implemented, a custom heuristic function was created for the best-first and A* algorithms. (Java)
• **Banknote authentication:** A neural network was created for the purpose of classifying banknotes as genuine or forged. The neural network managed to achieve 100% correct classification. A data set from the UCI Machine Learning Repository was used for the project. (Matlab)
• **Custom database merger:** Software which modifies and augments a massive RDF database (originally a clone of freebase) by parsing websites, extracting and analyzing data, performing entity recognition and fact extrapolation. (Java, MySQL, RDF, OpenNLP)
• **BTC Risk Metric:** Bitcoin risk oscillator, combining multiple metrics (EMA 5 Daily / EMA 50 Weekly, Mayer Multiple, Sharpe Ratio, Price / EMA 400, RSI 20, Puell Multiple). It also attempts to account for the logarithmic nature of BTC growth and diminishing returns. Available as an indicator on TradingView.
• **OpenSCAD:** I like programmatically creating models of objects to 3D print.
• **Auto conf:** Collection of cross-platform scripts (mostly for MacOS and linux) to get new machines set up and configured quickly, will install hundreds of dependencies, patched nerdfonts, configure zsh, clone repos, link my dotfiles etc

## Programming Languages
Most recently focused on web (TypeScript / JavaScript, HTML, CSS) and DevOps (bash scripts, Dockerfiles)
Java, Python, SQL in previous roles.
Limited experience with C, C++, R, PHP, Matlab and SPARQL in the past, always happy to pick up a new language.
Currently learning Rust and Elixir.