

CURRICULUM VITAE

JĘDRZEJ BOGUMIŁ LEWANDOWSKI, MD

FULL STACK + MEDICAL DOCTOR

Motto: "Man Has No Good in Himself and Can Glory in Nothing"
— Thomas. A. Kempis, *The Imitation of Christ*.

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EDUCATION

1. 2014 - 2021: Medical University of Warsaw. Title: Doctor of Medicine
2. 2021: Polish physician license no 3619620
3. 2024: AWS Certified Solutions Architect - Professional

WORK EXPERIENCE

1. 2004 - 2017: Self-taught developer
2. 2016 - 2018: Chief of IT department in ACA Soli Deo (non-profit)
3. Mar 2018 - Aug 2019: Architect and full-stack developer of WISE system in wise-team.io
4. Sep 2019 - Nov 2020: Typescript full-stack developer at Pitchup.com
5. Dec 2020 - Feb 2021: Senior fullstack developer at Refair.me (part-time)
6. Mar 2021 - Sep 2021: Preparing & passing Polish Medical Final Examination (84%)
7. Oct 2021 - Oct 2022: Intern physician at Olsztyn Voivodeship Specialistic Hospital
8. Feb 2022 - May 2023: Cost CA20124 management committee member (non-profit)
9. Oct 2022 - today: **Digitevent.com**
 - Oct 2022: Senior developer
 - Oct 2023: Lead developer

Explanation of scopes, responsibilities & projects below.

CERTIFICATES

- AWS Certified Solutions Architect – Professional (level 3/3): https://www.credly.com/badges/223b49ec-d5c5-4717-b54b-2a99149e1ca1/public_url
- AWS Certified Solutions Architect – Associate: https://www.credly.com/badges/61803e12-14b5-4ee0-99df-b6f1d7ac1300/public_url
- OCUP2 Certified UML professional, level: foundation. Certificate: <https://www.omg.org/cgi-bin/searchcert.cgi?keywords=cid683425>
- Octalysis level 1 certificate in gamification (<https://octalysisgroup.com/certificates-list/>)

- PL TOP 8 Typescript, PL TOP 8 Vue.js, PL TOP 9 Golang on Codersrank.io (<https://profile.codersrank.io/user/jblew>).
Based solely on my open source work
- Polish Medical Licensing Exam: 84%
- Polish medical doctor license no 3619620: <https://rejestr.nil.org.pl/>

PUBLICATIONS & KEYNOTES

- Keynote speech at Infomeet Wrocław 2019 "How to unleash the power of typescript in your project" (<https://cv.jblewandowski.com/infomeet19-typescript-keynote-1.0.0.pdf>)
- Co-authored two academia publications (<https://orcid.org/0000-0003-4091-642X>)
- Chapter "Gamifikacja w edukacji w centrach symulacji medycznej" (eng. Gamification in education in medical simulation centers) in book "Symulacja jako metoda kształtowania umiejętności nietechnicznych i kompetencji społecznych" (ISBN 978-83-674-4788-1) (publication scheduled). In cooperation with Warsaw Medical University Simulation Center.

LANGUAGES

English C1-C2 (worked remotely in the UK), French A2, Polish native

IT SKILLS

Highlights: Architecture (UML, DDD, risk-based decisions), AWS (certified), Fullstack (Typescript + Vue/react + Node.js) + Go + flutter + Kubernetes

CLOUD

- ★★★★★ AWS (SAP-C02 certified)
- ★★★★☆ GCP
- ★★★☆☆ OVH
- ★★★☆☆ Bare metal / dedicated

LANGUAGES

- ★★★★★ Typescript + javascript
- ★★★★☆ Go
- ★★★★☆ Dart
- ★★★☆☆ Julia
- ★★★☆☆ Java SE 8
- ★★★☆☆ Python

ARCHITECTURE & PROJECT MANAGEMENT

- ★★★★★ TDD (detroit school = cheap testing)
- ★★★★☆ DDD
- ★★★☆☆ UML (certified)
- ★★★☆☆ Risk/benefit decision making
- ★☆☆☆☆ Team management

INFRA / CICD

- ★★★★★ Github actions
- ★★★★★ Docker + docker swarm
- ★★★★☆ Kubernetes (+microk8s)
- ★★★★☆ Cloudformation
- ★★★★☆ Linux (Debian family)
- ★★★★☆ Networking: lan, vpc, wireguard
- ★★★★☆ BASH + ZSH
- ★★★☆☆ Hashicorp Terraform

FRONTEND

- ★★★★☆ Flutter (mobile)
- ★★★★☆ Vue.js
- ★★★☆☆ React

SECURITY

- ★★★★☆ Browser security
- ★★★★☆ WAF, VPC security
- ★★★★☆ JWT
- ★★★☆☆ OAuth, OIDC
- ★★★☆☆ Hashicorp Vault
- ★★★☆☆ PKI certificate management
- ★★☆☆☆ ISO27001

DATABASES

- ★★★★☆ MongoDB
- ★★★★☆ PostgreSQL + query profiling + NoSQL mode
- ★★★☆☆ Redis
- ★★★★☆ Firestore / Realtime Firebase
- ★★★★☆ GraphQL (Hasura + Apollo)
- ★★☆☆☆ MySQL/MariaDB

PAYMENTS

- ★★★★☆ Stripe
- ★★★☆☆ Mangopay

BLOCKCHAIN

- ★★★★☆ Hive (former steem) blockchain (Hive / steem dApp architect)

DATA SCIENCE

- ★★★☆☆ Bayesian statistics & simulation
- ★★★☆☆ PyMC
- ★★★☆☆ Google Colab / TPU / Jupyter

WEB

- ★★★★☆ HTTPS, HTTP Caching, websockets
- ★★★★☆ CDN management (cloudfront, ACM)

IT PROJECTS

2004 - 2017 — SELF-TAUGHT PROGRAMMER.

- *2006-2016*: Websites for local organizations: church, two schools, youth association, martial arts club, book club
- *2009*: Mailing system for local hospital
- • Multiple cooperative projects including MUD (text-based online multiplayer game) with over 60 kloc, Distributed photo library system for 400k archive.
- *2008-2012*: **MUD (text-based online multiplayer game)**
60ksloc over 5 versions. Stack: SVN->Hg->GIT, Java SE, advanced concurrent programming, Jetty/Netty, custom WebSockets, SQLite, PostgreSQL, SSH, remote deployment. Learned: versioning, complex OOP patterns, multiple distributed app design approaches (lifecycle, eventbus, reactive/observable, sagas), collaboration in a small team.
- *2015*: **Distributed photo library system**
Management of 400k+ photo libraries distributed over several external HDDs with replication and duplicate detection. Stack: Java SE/Swing. Learned: scaleable development
- *2006-2016*: **Websites for local organizations**
Webdesign + backend. Stack: HTML/CSS, PHP/CakePHP, Wordpress theme/plugin development. Learned: cooperation with clients
- *2015-2017*: **Domestic heating management system**
Stack: ESP32, ST ARM, Java SE, RabbitMQ, mesh networking. Learned: embedded development, dealing with networking QoS and outages

2016 - 2018 — CHIEF OF IT DEPARTMENT IN ACA SOLI DEO (NON-PROFIT)

- Designing the website solideo.pl (which required custom backend) and posters for events. Learned: public consultations and focus groups
- Implementation of HR and internal assets management system based on NextCloud. Learned: DevOps at scale.
- Music driven lighting system for big events (150+ participants). At Soli Deo I was responsible for stage lights and sound at events. There I created a lighting system for large halls, both hardware and software. Challenges: (1) realtime software DSP with spectral analysis and a realtime; (2) low-cost, high distance, low latency communication with stage lights (implemented using digital current loops instead of voltage gated signals which removed the need of cable shielding). Learned: interaction between software and physics, electrical safety paperwork

2018 - 2019 — ARCHITECT AND DEVELOPER OF WISE AT WISE-TEAM.IO

Stack: Steem blockchain + Typescript/Node.js/browser + Vue.js + Docker/swarm + PostgreSQL/PostgREST + Redis/socket.io + Hashicorp Vault + Travis + Ansible + Logz.io

Wise-team.io (<https://github.com/wise-team>) was a blockchain startup. We run a Steem (now Hive) blockchain witness node and maintained two decentralized apps for Steem blockchain: Engrave and Wise. I was the architect and lead of the WISE system. Wise was a platform that allowed “whale” users to delegate their voting power under strictly defined and publicly visible criteria. We designed a 2nd layer blockchain protocol with a toolset: a nodejs library, a cli tool, and a web portal.

Learned: secure development where client money is at stake • TDD • secure CI/CD • cryptographic key management (using Hashicorp Vault) • managing open-source project and collaborating with the community (PRs, issues) • hosting public • presenting project at a conferences (Steem Meetup Warsaw, Steemfest 2018)

2019 - 2023 — PERSONALIZED PATIENT ADVICE SYSTEM FOR VOIVODESHIP REHABILITATION HOSPITAL FOR CHILDREN IN AMERYKA (NON-PROFIT)

Stack: Firebase (Functions / Firestore / RealtimeDB / Auth / DynamicLinks / Hosting) + Typescript / Node.js / browser + Vue.js + Android native + Google Play store + Travis

I was asked to develop the system by doctors in Allergology Ward of the Voivodeship Children Rehabilitation Hospital in Ameryka. It was aimed to help with two issues: (1) allergic test have long evaluation time and the results arrive after patient discharge; (2) the advice is often complicated and hard to remember by the patient. This app allows patient's parents to view medical advices on their mobile devices. This is a non-profit and open source (GPLv3) project: <https://github.com/Jblew/amerykahospital-personalizedadvice> / website: <https://aplikacja.ameryka.com.pl/>.

Learned: providing training for and users and IT support staff • GDPR compliance

2019 - 2021 — HI.PINE GAMIFIED CHENEAU BRACING (NON-PROFIT)

Stack: Typescript, Vue, React, Google IoT platform, GCP datastore, ESP32, Platform.io, Markovian+Bayesian ML

Cheneau is an effective means to treat juvenile scoliosis but the difficulty lies in the fact that an adolescent has to wear the rigid brace 23 hours a day. I was asked to develop a device to monitor therapy compliance and angle progression. In a multidisciplinary team we designed several prototypes of a device to be mounted on Cheneau braces. During the

development of the project we decided that gamification will be more effective than plain control of compliance. To elevate my skills on gamification I completed a month-long Behavioural Design Masterclass by Yu-kai Chou and obtained an Octalysis Level 1 certificate on gamification. The project also facilitated development of near-realtime hidden markov classifier for pattern recognition in 3*9dof motion sensors. The project was discontinued due to an earlier success of similar solution (we decided that it is better to start designing in another field rather than compete with already working solution that embraced core features of our idea).

Learned: secure IoT device management • collaboration with machine-learning expert • preparing data for machine-learning work • ML DevOps (data management, model deployment)

2019 - 2020 — PITCHUP.COM

Stack: Typescript, NodeJS, Vue, Xstate, GraphQL/Hasura, Postgres, Python, Gitlab

At Pitchup.com I was consulting Typescript related decisions and issues, building search middleware, designing a proof of concept (and later implementing) a novel approach to frontend state management using finite state machines (xstate machines as a state provider for vue). I also implemented SQL views and procedures for Hasura GraphQL backend

Learned: finite state machines • collaboration with UX team and understanding UX research reports • improved English

12.2020 - 2021 — REFAIR.ME

Stack: Typescript, NodeJS, PostgreSQL, TypeORM, Vue, Gitlab, Jira

Refair.me was an innovative HR platform for gamified referral-based recruitment. I was a half-time senior fullstack developer working on refactoring both backend and frontend to Typescript. The project was discontinued on Feb 2021 due to lack of financing.

Learned: refactoring large codebase on actively developed project

09.2021 - 09.2022 — VOIVODESHIP SPECIALIST HOSPITAL IN OLSZTYN

Wards: Traumatology, Cardiology, Primary Care, Maternity ward (labour tract), Emergency Department, General surgery, Intensive care, General Pediatrics, Neonatology, General Psychiatry

After completing medical university and passing Polish Medical Licensing Exam I am completing the mandatory physician internship. I chose Voivodeship Specialist Hospital in Olsztyn because the hospital is organized around large emergency department and holds status of a trauma center which means that there is an opportunity to learn emergency care and gain experience in treating common iatrogenic complications that are more often admitted than in most hospitals.

Learned: teamwork in stressful situations • emergency closed-loop mode communication • working in a highly hierarchical community • professional communication with patients

10.2022 - TODAY — DIGITEVENT.COM, SENIOR, THEN LEAD DEVELOPER

I greatly decreased number of client complaints by training team in TDD: introduced 3 tier testing strategy which allowed smooth transition from MVC monolith to modular monolith in small steps without braking important functionalities. I reduced PR review time by automating common comments as custom lint rules. I built multi provider payment system with refunds, cashouts and adaptable fees which included negotiations with payment provider (on the technical side). I unified

authentication across apps and systems. As a developer I participated in ISO27001 process and implemented security measures including automated threat detection system. I improved scalability by improving statelessness and reducing coldstart time by factor of 10x. On a daily basis I monitor stability and reliability of a system that handles extra large events (including the Olympic Games 2024). I was promoted to Lead Developer in October 2023.

EXTRACURRICULAR

- The easiest way to pronounce 'Jędrzej' for an English-speaker is to say 'J-J'. This is pretty accurate! 🤖
- Programming since I was 9 years old
- I love playing film music on the piano
- I am Bayesian statistician with experience in monte carlo simulations (PyMC)
- I play blitz (5+0) chess on Lichess
- I love modern and contemporary art (See my introductory lecture on modern art: <https://github.com/Jblew/sztuka-nowoczesna-sztuka-wspolczesna-wyklad>)
- Former member (2015-2021) and elected Vice-chairman (2016-2017) of Academic Catholic Student Association Soli Deo.

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I hereby give consent for my personal data included in my application to be processed for the purposes of the recruitment process under the European Parliament's and Council of the European Union Regulation on the Protection of Natural Persons as of 27 April 2016, with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (Data Protection Directive)