Emanuel Dima

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Full stack developer with 10+ years of experience in web development and Java, 3 years C++ experience, 3 years of experience as a team leader. Good general knowledge of many diverse technologies. Calm, open and friendly.

Skills

Java language and technologies: Java 8/11/17; JDBC; Maven; Dropwizard; Apache Tomcat

Web technologies: HTML, CSS; JavaScript, React, Redux;
Web servers: Apache, Nginx; **Analytics**: Piwik/Matomo

Python language and technologies: Python 2/3; Flask; Jinja templates

Other languages: Bash (scripting), C/C++, Go, Rust

Data/configuration formats: JSON, YAML, TOML; **Xml technologies**: XML, XSLT, XPath; **Specification formats**: JSON Schema, RelaxNG, XML Schema

Databases: SQL; PostgreSQL, MySQL

Design Patterns; UML; REST; SOA/Microservices; Linux, networking

Version control: Git, Svn; **Project management**: GitHub, Jira, Trello;
Continuous integration: Travis

Virtualization, DevOps: Docker, Docker Swarm, Vagrant

Basic knowledge of: Swift, Clojure, Scala, C#, Erlang, Haskell, Lisp, Matlab, Pascal, Perl, Prolog; LaTeX; Node.js; XACML; Mustache templates;

Education

Master degree in Distributed Systems (master thesis grade: 10),
Computer Science Faculty, "Al. I. Cuza" University, Iași (2007 - 2009)

Bachelor of Science (bachelor paper grade: 10; average ECTS grade: 9.49)
Computer Science Faculty, "Al. I. Cuza" University, Iași (2003 – 2007)
- Erasmus scholarship, Granada University, Spain (oct. 2006 – feb. 2007)

Experience

ACADEMIC RESEARCHER (SOFTWARE DEVELOPER), UNIVERSITÄT TÜBINGEN; TÜBINGEN, 2010-PRESENT

- **WebLicht** (web app for automatic linguistic annotations), 2013-2021, weblicht.sfs.uni-tuebingen.de: WebLicht is a tool for automatic annotations of text corpora, relying on an ecosystem of external services. I worked on maintenance and new features: design and implementation of a service chaining language, support of new linguistic data formats (TCF versions 4 and 5), service testing, coordination of changes across multiple institutions, Shibboleth configuration, etc.
- **Switchboard**, (web app for finding tools appropriate to given research data sets), 2019-2021, switchboard.clarin.eu, github.com/clarin-eric/switchboard: in 2019 I became the main developer, rewriting key modules for improved performance and ease of administration. I also added many new features: automatic recognition of file types, content inspection of data archives, seamless integration with other data repositories, UI improvements, a new tool specification format, etc.
- **Stratus** (on-premises hosting solution), 2019-2021: a system for deploying web services, based on Docker Swarm. I designed it as a simple transition path from an existing Rancher hosting solution with focus on simplicity and ease of maintenance.
- **Tündra** (web app for browsing text corpora), 2018-2020, weblicht.sfs.uni-tuebingen.de/Tundra: at first only involved in the UI design, I later became the project maintainer, fixing bugs and adding small features.
- **B2SHARE** (web app for publication of scientific data), 2014-2018, b2share.eudat.eu, github.com/EUDAT-B2SHARE/b2share: Technologies: Python, Flask web framework, Jinja templates, using the CERN's Invenio framework as backend; HTML/JS/React in the frontend. I started as developer and became team coordinator in 2015. I was involved in the design and implementation of the UI, authentication (using OAuth), the input of rich metadata (DublinCore, Marc21) with custom schemas, enforcing publication embargoes, allocation of unique identifiers (PIDs, DOIs), data versioning. As a team coordinator I was responsible for defining requirements, project management, roadmap, QA, deployments, as well as interactions with the upper management.
- **FCS Aggregator** (search interface for distributed text corpora), 2014-2015, contentsearch.clarin.eu: I implemented a new version of the required search protocol (based on SRU protocol), redesigned the UI and maintained the project for a short while.

- **Erdo** (web frontend of data repository), 2011-2015: a simple HTML/Javascript frontend with a Java backend communicating to a Fedora Commons server. It was used as the department's institutional repository.
- **service prototypes: GEF** (Generic Execution Framework), 2013-2018, github.com/EUDAT-GEF/GEF: Environment for execution of lightweight scientific workflows, provided as docker containers, at the site of the data. Useful for data filtering and data statistics. Technologies: Go, gorilla/mux, sqlite; **AAI delegation** (2019) delegation of access to a protected resource; **DEX** (2017-2018), a rule engine prototype based on Drools.

During this period I was actively involved in the following German, European and transatlantic research projects: EUDAT, EUDAT2020, CLARIN, CLARIAH, LAPPS-CLARIN.

SENIOR SOFTWARE DEVELOPER, BITDEFENDER; IAȘI, 2008-2010

- **Bitdefender 2010, Bitdefender 2011** (antivirus software): I worked on a custom user interface (a modular, plugin based system) and on an internal communication system that reflects the state of different modules in different processes to the main user interface (Windows/C++/WinAPI, MFC, COM, HTMLayout)

RESEARCH ASSISTANT, "AL. I. CUZA" UNIVERSITY; IAȘI, 2008–2009

- **ALEAR** (European research project): I worked on a simulation concerning the emergence of anaphoric phenomena in artificial languages developed by software agents (Java)
- **InterOb** (European research project): I worked on the physical simulation and rendering (Java/Java3D) of a muscle-based facial animation engine.

SOFTWARE DEVELOPER, EMBARCADERO TECHNOLOGIES; IAȘI, 2007–2008

- **DSAuditor** (a network-based database auditing solution): worked on project maintenance, Linux/C, SQL
- **Performance Center** (a database performance monitoring solution): project maintenance, Windows/C++, SQL/WInAPI, MFC, COM

Language Skills

Fluent: **English, Romanian** (native)

Basic: **German (**A2/B1 level)

References

On request.