# **ENEA TSANAI**

#### HIGHLIGHTS

- Programming Languages: Python, Typescript, Go, C++, Java
- Databases: Redis, PostgreSQL, MySQL, MongoDB, SQLite, InfluxDB
- Web/Mobile Frameworks & Tools: React, Angular, Flask, Node.js, ExpressJs, Drupal, KeystoneJs, Nginx, Apache, React Native, Ionic, Cordova
- API Integrations: Auth0, Stripe, Twilio, Microsoft Computer Vision, Socket.io, Facebook Graph, Google+, LinkedIn
- Infrastructure & CI/CD: Concourse, Jenkins, Ansible, Docker, Kubernetes, Serverless, Terraform, AWS (Lamda, S3, SQS, RDS, KMS, CloudWatch, CodePipeline)
- Telemetry & Streaming: RabbitMQ, Kafka, Prometheus, Thanos, Grafana, Telegraf

#### **EXPERIENCE**

## Comcast - Philadelphia, PA

Software Engineer III

Apr 2018 - Present

- O Designs and leads the implementation of a deployment automation platform for microservices, network switch configuration and operating system upgrades for touchless mass deployments across thousands of edge locations affecting millions of customers. Powered by machine learning, real-time telemetry, auto-scheduling and rollback capability, this platform reduces the amount of planning and reserved human resources while it increases reliability and availability.
- o Manages project scope and leads a small team of engineers to deliver technical debt free software components on time.
- o Built an interactive network switch topology tool, fed with real-time telemetry, that significantly reduced the root cause analysis by the operations teams.
- o Designed and implemented CI/CD pipelines used for over 100 microservices using Ansible, Concourse and Kubernetes.
- Designed health check mechanisms and quality of service based triggers to validate deployments and customer impact.
- o Designed and led the implementation of a centralized operations framework for system maintenance, hardware and software provisioning management.

# Xyntek Inc. - Newtown, PA

Software Engineer

Jun 2016 - Mar 2018

- Team lead and heavily involved in architecting infrastructure and MEAN applications.
- O Designed and implemented sensitive components such as in-app payment transactions, chat, and background checks.
- o Built CI/CD pipelines and infrastructure for backend APIs, websites and mobile apps.
- o Integrated OWASP security tests in the release cycle and ensured server PCI compliance.
- o Heavily involved in project analysis, planning, technical documentation and proposal documents.
- o Scrum master and communicator with project stakeholders to elicit requirements, report progress and collect UX feedback.
- o Responsible for training, code reviews and technical interviews.

### Research Unit 6 - Patras, Greece

NS Researcher and Software Engineer

*Jan 2012 – Jul 2015* 

- Conducted research on ad hoc networks, quality of service, multimedia streaming and routing protocols in mobile and vehicle ad hoc networks. Implemented and proposed cross layer mechanisms for routing, video streaming and interface-channel switching.
- o Implemented packet routing enhancement algorithms in C++, Python utilizing the simulators NS-2 and NS-3. Published results in international conferences including IEEE and Springer.
- Responsible for setting up large scale simulations to evaluate the performance of established routing protocols in mobile and vehicle ad hoc networks and compare them to proposed ones.
- o Built automation pipelines for simulation execution, data aggregation and visualization with Bash, AWK, Matlab and Gnuplot.
- o Drupal developer, designer, administrator and maintainer of the Ru6 portal which helped researchers publish their results.

## **EDUCATION**

Villanova University, Villanova, PA

Aug 2015 – Dec 2016

**M.S. Software Engineering** - GPA: 3.87

University of Patras, Patras, Greece

Oct 2009 - Nov 2014

# INTERNATIONAL PUBLICATIONS

- o C. Bouras, Kapoulas, V., and Tsanai, E., "A GPSR Enhancement Mechanism for Routing in VANETs", in The 13th International Conference on Wired & Wireless Internet Communications (WWIC' 2015), Malaga, Spain, 2015. ∞
- C. Bouras, Gkamas, A., Kapoulas, V., Politaki, D., and Tsanai, E., "Enhancing video transmission in MANETs utilizing multiple interfaces and multiple channels per node", in 5th International Conference on Ad Hoc Networks, Barcelona, Spain, 2013. □
- o C. Bouras, Kioumourtzis, G., Gkamas, A., Kapoulas, V., Politaki, D., and Tsanai, E., "Evaluation of video transmission in emergency response ad hoc networks", in 4th International Conference on Data Communication Networking DCNET 2013, Reykjavvk, Iceland, 2013, pp. 27-35. ∽
- C. Bouras, Gkamas, A., Kapoulas, V., Politaki, D., and Tsanai, E., "Evaluation of Routing Protocols for Video Transmission over MANETs that use Multiple Interfaces and Multiple Channels per node", in 19th IEEE International Conference on Networks (ICON 2013), Singapore, 2013.

## **LANGUAGES**

• English (fluent), Greek and Albanian (native speaker)