

Highlights

Accomplished software engineer with extensive experience in developing, tech lead, and architect roles:

- 17 years in software development, primarily in C/C++/Objective-C/C#
- Last 1.5 years focused on development for ROS (Robot Operation System) using C/C++/Python
- And 6 mounts of development on STM32 microchips using C/C++
- Also over 8 years of development in JavaScript/TypeScript/CoffeeScript, Python, Java for desktop tools/applications and browser extensions
- Over 10 years of leading engineering teams and designing a complex software solution
- Over 5 years of development on iOS, macOS, and Safari development using Swift
- Over 1 year of development Augmented Reality using Unity, ARFoundation, EasyAR
- Fast in learning and applying new technologies, flexible in adopting ever-changing requirements
- Deep expertise in security apps, Bluetooth communication, and driver development
- Easily build communication with developers and able to direct teamwork to the goals within schedules
- Patent for “Short-distance Network Electronic Authentication”, US 10,764,056

things I'm passionate about:

- finding the simplest design for the problem
- continuously learning and trying new technologies
- not religious about any technology – looking for the right tool and the last stack for a job

Experience

[2022/08-now]
DeusRobotics

Remote
full-time

Software Development
Engineer

- Joined to an existing command which creates the software on heavy robots for moving cargo storage at the warehouse:
 - The general task is to migrate existing code from ROS 1 to ROS 2 together with my team
 - **Used tech stack:** C/C++/Python; ROS 1, ROS 2

[2022/08-2022/09]
Staff-eye GmbH

Remote
part-time

Software Development
Engineer

- Refactor the existing project on STM32 microcontroller:
 - Migrated code from use SPL to HAL driver
 - Migrated code from F103 to F303 chip
 - Added support to work with the project on CubeIDE
 - Migrated communication with MEMS LSM6DSO32 chip from internal code to Cube MEMS library
 - Added merge gyroscope's data and accelerometer's data over the filter with the use MotionFX library
 - Created detailed documentation
 - **Used tech stack:** *C; STM32, HAL, MEMS*

[2022/04-2022/07]
Staff-eye GmbH

Remote
part-time

Software Development
Engineer

- Development a code generator from OMG IDL to C, C++, C#, Python, FlatBuffer, and Protobuf languages with support cross-language serialization/deserialization:
 - Designed and developed the generator tool based on the customer's requirements
 - Developed Flex and Bison rules to generate AST (Abstract syntax tree) from OMG IDL syntax
 - Designed and developed the base code for serialization/deserialization data for the next languages: C, C++, C#, Python
 - Developed writers for next languages: C, C++, C#, Python, FlatBuffer, Protobuf
 - Developed unit tests for Flex/Bison rules, serialization/deserialization codes, and generated codes from examples
 - Created detailed documentation
 - **Used tech stack:** *C/C++; Flex/Bison*

[2022/04-2022/07]
DeusRobotics

Remote
part-time

Software Development
Engineer

- Development MVP to UI client control to robot for print stickers on the floor:
 - Designed and developed MVP based on the customer's requirements
 - Implemented support communication between ROS 2 and Unity application
 - **Used tech stack:** *C++/C#/Python; ROS 2, Unity*

[2021/10-2022/03]
DeusRobotics

Remote
full-time

Software Development
Engineer

- Development MVP to the software on the robot for print stickers on the floor:
 - Designed and developed MVP based on the customer's requirements
 - Implemented support communication with a total station to correct the robot's world position
 - **Used tech stack:** *C++/Python; ROS 2*

[2021/09] **Remote** **Software Development**
individual client **Engineer**

- Development **Kaup 3D** product for iOS/Android with Unity:
 - Designed and developed the product based on screens transition map and UI design from PSD file
 - Implemented support localization in the application with Lean Localization framework
 - Published to Apple AppStore and Google Play Market
 - **Used tech stack:** *C#; Unity, Lean Localization, WebView Framework*

[2021/07-2021/08] **Remote** **Software Development**
individual client **Engineer**

- Development **LiveHistory** product for iOS/Android with Unity:
 - Designed and developed the product based on screens transition map and UI design from PSD file
 - Implemented support localization in the application with Lean Localization framework
 - Implemented parse QR-Codes as AR markers to put 3D characters in place
 - Connected LipSync framework to characters
 - Published to Apple AppStore and Google Play Market
 - **Used tech stack:** *C#; Unity, Lean Localization, WebView Framework*

[2021/06] **Remote** **Software Development**
Staff-eye GmbH **Engineer**

- Refactor existing test system to remove magic numbers and spaghetti code:
 - Analyzed the existing code in the test engine to find the optimal intervention point because the code works in production
 - Created a specific XML parser to support test configuration and integrated it into the existing test engine
 - Designed and implemented the ability to move magic numbers from the test code to configuration XML-files
 - Analyzed the existing code in the test scripts to find repeating code
 - Extracted repeating code from existing test scripts into a separate class
 - **Used tech stack:** *C#*

[2021/05] **Remote** **Software Development**
individual client **Engineer**

- Development **Kaup** product for iOS/Android with Unity:
 - Designed and developed the product based on screens transition map and UI design from PSD file
 - Implemented support localization in the application with Lean Localization framework
 - Published to Apple AppStore and Google Play Market
 - **Used tech stack:** *C#; Unity, Lean Localization, WebView Framework*

[2021/02-2021/04]
CleverBooks

Remote

**Software Development
Engineer**

- Development **CleverBooks Blocks AR** product for iOS/Android with Unity:
 - Designed and developed the product from early MVP code
 - Added possible playing the game in AR
 - Fixed the Tetris game engine to working in AR Space
 - Prepared the application to localization with Lean Localization framework
 - Added playback background sounds in the game
 - Published to Apple AppStore, Google Play Market, and Amazon Store
 - **Used tech stack:** *C#; Unity, ARFoundation, Lean Localization*
- Development **CleverBooks Space AR** product for iOS/Android with Unity:
 - Migrated the product from Vuforia to EasyAR
 - Fixed the project to a previously published version after losing the last version code from the previous development team
 - Prepared the application to localization with Lean Localization framework
 - Added new rockets from prefabs to project and implemented product logic in new rockets
 - Published to Apple AppStore, Google Play Market, and Amazon Store
 - **Used tech stack:** *C#; Unity, Vuforia, EasyAR, Lean Localization*

[2020/10-2021/01]
Self project

**Software Engineer,
Designer, SMM**

- Development **RC Car in AR** product for iOS/Android with Unity:
 - Came up with the app idea
 - Designed and developed the product
 - Created and implemented physics car algorithm
 - Implemented support localization in the application with an internal framework
 - Published to Apple AppStore and Google Play Market
 - **Used tech stack:** *C#; Unity, AR Foundation*

[2015/07-2020/09]
Auxoft LLC

Remote

**Director of Engineering
co-Founder**

- Participated in the development of the main idea of the product, UX, architecture, planning, bootstrap build, and release system and was responsible for the architecture and protocol design of Web extension, desktop, and mobile applications
- Work with customers, fast working round, bug investigation, fix and deployment
- Designed and developed MVP of future **KeyReel** project with parts: iOS database application, macOS service application, and Chrome extension.
- **Used tech stack:** *ObjC, JavaScript; UIKit, Cocoa, CoreBluetooth API, Thrift, HTML, CSS*

- With the team under my leadership developed the main version of the product:
 - Developed bidirectional communication framework for Bluetooth using Thrift, and implemented reliable implementation for iOS, macOS, and Windows and managed implementation for Android
 - Designed and developed **KeyReel** iOS, macOS, Windows applications, Browser Extensions, macOS U2F kernel driver
 - Designed and controlled the development of KeyReel Android application
 - **Used tech stack:** *ObjC, C/C++, Swift, CoffeeScript, JavaScript, Kotlin; UIKit, Cocoa, UWP, Custom controls, Jade, SASS, CoreBluetooth API, CommonCrypto, Thrift, Firebase, Crashlytics, WebEx API, NativeMessaging*
- Also developed match tools:
 - Chrome extension to manual **KeyReel** testing
 - Tool for auto testing **KeyReel** form parser on saved forms
 - Tool for auto testing **KeyReel** extension and competitors extensions on real sites
 - Command-line auxoft-flow tool for optimizing work with Auxoft developing flow
 - Library **PageCatch** for saving current webpage state into one huge html file including all resources (e.g. iframes, styles, pictures, fonts)
 - Chrome extension: **Skeleton** for showing structure of the HTML page
 - **Used tech stack:** TypeScript/JavaScript, CoffeeScript, Bash; HTML, Jade, CSS, SASS, Selenium, WebDriver

[2006/02-2015/06]
SecurStar GmbH

Ukraine, Chernivtsi

Senior Software Engineer
System Architect, Team Lead

- I joined to development team product **SecurePhone CSD** for Windows CE as a junior software developer and I was creating product features (C# .Net Compact Framework). After a time, I was promoted as a developer in this project.
- When world's GSM operators canceled support of CSD protocol, our team designed and developed a new product **PhoneCrypt** where audio data was transferring over custom's P2P protocol. My roles were:
 - Design and develop core library for P2P communication, Authorize, and Media servers
 - Design and develop Windows Mobile Client, BlackBerry Client, iOS Client
 - Used tech stack: *C/C++, ObjC, C#, Java; WTL, UIKit, Custom controls, Core Data, WinAPI, TAPI, MAPI(SMS), UserNotification, sockets, WaveI/O+Speex/AMR Codecs, multithreading, STL, BOOST, custom encryption for SQLite, PostgreSQL, Cryptography(custom crypto lib), JsonRPC, XML, JSON*
- After some time, I became Team Lead in the project with several juniors, middle and senior developers in a team. Our team continued design and development core products and created few new. Roles:
 - Design and control the development of Windows Desktop Client, SIP Getaway, Admin Panel for Servers, P2P protocol auto testing tool
 - Used tech stack: *C/C++, PHP, Python; WTL, Custom controls, WinAPI, sockets, WaveI/O+Speex/AMR Codecs, multithreading, STL, custom encryption for SQLite, Symphony, Cryptography(custom crypto lib), JsonRPC, XML, JSON*

[2012/09-2014/06]
Iosoftware LTD

Ukraine, Chernivtsi
Remote

Software Engineer

- Refactored code structure and optimize speed in **JukeMaster** application (a handy music player, designed by musicians for musicians) for iOS. Used tech stack: C++/C, *ObjC; UIKit, Core Data, AudioQueue*
- Implemented a multiplayer with RackNET library into an existing **BattleHorn** project, implemented new UI design, optimized the game-engine to remove freezes, and migrated the Cococ2D-x version from 1.x to 2.x in BattleHorn game (a tactical castle defense game offering a thrilling story) for iOS. Used tech stack: C++/C, *ObjC; Cocos2D-x, RackNET*

[2008/02-2012/02]
Freelance on oDesk

Ukraine, Chernivtsi
Remote

Software Engineer

- Designed and developed products for Windows Mobile: **PhoneyCall** (simulate incoming phone calls), **HourlyChim** (issuing the alarm every hour), **EasySMS** (reading and writing SMS with finger interface and support T9), **ADOMessenger** (client for paging network). Used tech stack: *C#, C/C++; Forms, WTL, WinAPI, custom controls. NET CF, TAPI, MAPI, UserNotification, XML, SQLite, STL*

Computer skills

- Robots: ROS 1, ROS 2, Gazebo, RViz, ModBus, CAN
- Microcontrollers: STM32, SPI, I2C, CAN, UART
- Unity: AR Foundation, LipSync, Lean Localization, MapBox
- AR: ARKit, Unity AR Foundation, Unity Vuforia, Unity EasyAR
- Languages: C, C++, ObjC, C#, Swift, Python, JavaScript/TypeScript, CoffeeScript, Java
- UI Frameworks: UIKit, Cocoa, UWP, (previously WTL, wxWidgets, Qt, Windows Forms, WinAPI, MFC)
- Operating Systems: Ubuntu Desktop/Server, CentOS Desktop/Server, iOS, macOS, Windows Desktop/Server (previously Android, Windows Mobile, Blackberry)
- Security: communication encryption, file encryption, communication handshake (previously voice/text/HDD/flash encryption, OpenSSL)
- Networking and Web: TCP/IP, UDP/IP, RPC (Thrift, JSON), HTTP/REST
- Databases: SQLite (previously PostgreSQL, MySQL)
- (Previously) Web: HTML/CSS/SASS/JavaScript/AJAX/jQuery/Jade

Education

- Engineer automation, Ivano-Frankivsk National University of Oil and Gas, Ukraine, 2004

Social links

- LinkedIn: [linkedin.com/in/petroladkin](https://www.linkedin.com/in/petroladkin)
- GitHub: github.com/petroladkin
- Facebook: [facebook.com/petro.ladkin](https://www.facebook.com/petro.ladkin)
- HackerRank: [hackerrank.com/petro_ladkin](https://www.hackerrank.com/petro_ladkin)