

Informatics Institute of Technology

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**TDLang - Dependently Typed  
Object-Oriented JVM Programming Language  
for Type-Driven Development**

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# Abstract

Compilers are edging towards more advanced compilation techniques, a huge factor limiting advances in compilers is the type system of programming languages.

Within the last five years the integration of dependent type system into the strong type system in object-oriented programming languages were identified as a new improvement for compilers, and formal verification for building quality software with less amount of unknown bugs.

TDLang is a cross-platform dependently-typed object-oriented JVM language for type-driven development with many benefits such as an easy-to-use syntax sugar for object-oriented programmers, auto-generation of validation code and custom exceptions, JVM language interoperability, etc.

## Subject Descriptors:

D.1.5: Object-oriented Programming

D.2.3: Coding Tools and Techniques

D.3.1 Formal Definitions and Theory (D.2.1, F.3.1, F.3.2, F.4.2, F.4.3)

D.3.2 Language Classifications

D.3.3 Language Constructs and Features

D.3.4 Processors

## Key Words:

Type-Driven Development

Dependent Types

Constraints

Code generation

Object-oriented Programming

JVM Languages