

## **Abstract**

**Categories and Subject Descriptors** F.4.1 [*Mathematical Logic and Formal Languages*]: Mathematical Logic—Proof Theory; I.2.2 [*Artificial Intelligence*]: Automatic Programming—Program Synthesis

**General Terms** Languages, Theory

**Keywords** Functional Programming, Proof Search, Program Synthesis, Type Theory

## **1. Introduction**

## **2. Alternate Languages of Regular Expressions**

### **2.1 Regular Expressions**

### **2.2 Examples**

### **2.3 Exemplified Regular Expressions**

### **2.4 DNF Exemplified Regular Expressions**

## **3. Alternate Languages of Lenses**

### **3.1 Lenses**

### **3.2 DNF Lenses**

## **4. Search Strategy**

### **4.1 Equivalence Relation**

### **4.2 Distance Metric**

## **5. Implementation**

## **6. Related Work**

### **6.1 FlashFill**

### **6.2 FlashExtract**

### **6.3 SemFill**

## **7. Future Work**

### **7.1 Complex Data Structures**

### **7.2 Richer Classes of Lenses**

## **Acknowledgments**

## **References**