

# Embedding R in Perl

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# R Extensions API

- Faster native code
- Writing R Extensions <<http://cran.r-project.org/doc/manuals/r-release/R-exts.html>>
- Inline R package for C and C++
- Rcpp
- Advanced R book <<http://adv-r.had.co.nz/>>

# Goals

- Run R functions

```
R::library( 'class' );
```

```
my ($test, $train, $class) = ( ... ); # build data
```

```
my $knn = R::knn( $train, $test, $class ); # factor
```

- Convert Perl data to R data and vice versa

- n-d arrays (PDL), data frames, factor variables

```
my $knn_p = R::Convert::r_to_perl( $knn );
```

- RSPerl: conversion not dynamic

## Goals (II)

- Use R's machine learning packages (for research)
- Have some fun with R, Perl, and C :-)
- Write a paper for J Stat Soft :-D

# R internals

- SEXP
  - INTSEXP
  - REALSEXP
  - CHARSEXP
  - CLOSEXP

# What works

<<https://github.com/zmughal/embedding-r-in-perl-experiment>>

<<https://github.com/zmughal/data-frame-experiment>>

# Future

- Finish the function calls
- Fix some rough edges with 1-based indices
- Write that paper!