# LVMP.400201.211 II1

#### MainWindow

-PS: PaintScrene -NW: NetWork

-NW config: data NetWork -ui: Ui::MainWindow\*

+MainWindow(QWidget \*parent = nullptr)

+ReadDataNetWork(std::string path): data\_NetWork

+ReadTest(double\* input, int input\_n): void

+StartGuess(): void

+void clearLCD():void

#### **PaintScene**

-draw: bool

-vv: QVector<QPointF>

-pic: QImage -ui: Ui::PaintScene

+PaintScene(QWidget \*parent = nullptr)

+paintEvent(QPaintEvent\*): void

+mousePressEvent(QMouseEvent\*): void +mouseMoveEvent(QMouseEvent\*): void

+mouseReleaseEvent(QMouseEvent\*): void

+clear(): void

### **NetWork**

-actFunc: ActivateFunction

-bois: double\*\*

-L: int

-neuros\_bios\_val: double\*

-neuros\_err: double\*\*

-neuros val: double\*\*

-size: int\* -weight: Matrix\*

+NetWork(data\_NetWork data)

+~NetWork()

+PrintConfig(): void

+SetInput(double\* values): void

+ForwarFeed(): double

+SearchMaxIndex(double\* values): int

+PrintValue(int L): void

+BackPropogation(double expert): void

+WeightsUpdater(double Ir): void

+SaveWeights(): void

+void ReadWeights(): void

#### Matrix

-matrix: double\*\*

-row: int

-col: int

+Matrix()

+~Matrix()

+Init(int row, int col): void

+Rand(): void

+Multi(const Matrix& m, const double\* b, int n, double\* c): void

+Multi\_T(const Matrix& m, const double\* b, int n, double\* c): void

+SumVector(double\* a, const double\* b, int n): void

+operator ()(int i, int j): double&

+operator << (std::ostream& os, const Matrix& m): srd:: ostream&

+operator >> (std::istream& is, Matrix& m): std:: istream&

### **ActivateFunction**

-actFunc: activateFunc

+ActivateFunctuon()

+set(): void

+use(double\* value, int n): void

+useDer(double\* value, int n): void

+useDer(double value): double

## Sigmoid

+use(double\* value, int n): void +useDer(double\* value, int n): void +useDer(double value): double

### ReLU

+use(double\* value, int n): void +useDer(double\* value, int n): void +useDer(double value): double

## Thx

+use(double\* value, int n): void +useDer(double\* value, int n): void +useDer(double value): double

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# ГУИР.400201.211 П1

Диаграмма классов

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